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FOR

VOLUME V

MINING CONGRESS JOURNAL

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THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

A PREPAREDNESS CAMPAIGN

The executive committee selected by the American Gold Conference, held in Reno, August 12 last, after spending some weeks in Washington, have decided that further effort at this time will be without avail. The committee consisted of Governor Emmet D. Boyle of Nevada, General Bulkeley Wells of Colorado, J. A. Fulton of California, Whitman Symmes of Nevada, and W. J. Loring of California.

At the time of the conference it was urged that the United States Congress was then in the humor to consider propositions of this kind, that the enormous appropriations being made for war purposes was such as to accentuate the necessity of increasing the gold supply, that it was anticipated that the war would continue for a considerable length of time, possibly two or three years, and that the continually increasing costs of operation were gradually strangling the gold-producing industry, and that these conditions created a psychological opportunity time to ask aid from Congress to enable the gold mining industry to continue production. As a matter of fact, the need of an increasing gold supply is an after-war problem and not a war problem. During the war all gold reserves were locked up by governmental embargoes and commercial life, born of the patriotic impulses of the people, were such as to make the temporary need of gold much less than it will be when these special reasons have passed away and when the time has come for the liquidation of the vast indebtedness

which was then being piled up by all the nations engaged in the war.

The interest of Congress in these matters was evidenced by the appointment of a committee to investigate the situation. The administration was alive to the question, which was evidenced by the appointment by the Interior Department of a committee to make report upon the physical condition concerning gold mining. The Secretary of the Treasury publicly announced his belief in the vital importance to the financial world of maintaining the normal production of gold. THE MINING CONGRESS JOURNAL then urged immediate action looking to the relief of the then situation in order that gold mines which were then operating at a loss and which could not continue to operate for any length of time, could continue production if some certain assurance were given that continuation of operation might lead to conditions under which low-grade mines might be made self-sustaining.

The committee of the American Gold Conference believed it necessary that more complete information should be gathered concerning the condition of the gold mines of the country, their costs of operation and the exact measure of the aid which would be required to keep these mines in operation. Nearly four months was spent by this committee gathering the requisite data; in the meantime, active war operation has been terminated by the signing of the armistice, a trend of conditions which was the basis of the appeal for aid to the gold industry, viz., the upward trend of prices

had come to an end and future conditions promised a gradual return to an era of lower prices. There is no probability that prices will, for many years, be reduced to a level which will permit the successful operation of the great low-grade ore bodies, and the need of increased gold production will be felt when the time for payment of our stupendous bond obligations shall approach. Notwithstanding these conditions, the opportunity for securing aid for the gold mining industry was allowed to pass by because of the fact that no agency had been created having instantly available all of the necessary data concerning gold mining which was thought necessary by the committee in presenting this matter to the governmental authorities.

THE MINING CONGRESS JOURNAL believes that the losing of this great opportunity is a public calamity, because of which the public will suffer for many, many years to come. A temporary inconvenience will be caused the operators of gold mines, which will be recouped many fold as the wheel of opportunity carries the gold mining business from the slough of high prices to the slough of under-valuation of its product to the upper rim of its circle, where the purchasing price of gold will be many times what it is today. The American Mining Congress will be able, before another situation of this kind arises, through the Bureau of Mining Economics which it is now establishing, to supply immediately all of the data required upon which to base a campaign for the maintenance of stable conditions in the mining industry. The mining industry will at once begin, through the American Mining Congress, a campaign of preparedness.

A READJUSTMENT QUESTION

The most serious question involved in the readjustment of business conditions is whether or not the intensified features of government control which have prevailed during the war period are to be continued through the years to come, or whether the present war policy, fully jus-

tified for war purposes, is intended to be temporary only, with a return to the ordinary conditions at the earliest time possible.

War conditions made centralized control an absolute necessity. A republican government has demonstrated that it can become an autocracy and still be a democracy, because during the war it was the wish of every loyal citizen that absolute authority should be placed in the hands of the President of the United States, so far as that authority was in any way essential to the mobilizing of every force, the concentration of every power, the commandeering of every supply and the direction of these forces into those channels where greatest service could be rendered in the world war for democracy.

A great democracy becomes an autocracy in order that democracy may prevail. Will the powers that have been voluntarily surrendered to the Federal Government again be returned to the hands of those who developed the great enterprises, which have made possible the nation's success in its present undertakings? The reply to this question will have much to do with the facility through which the readjustment problems will be handled.

GOLD DECREASE SERIOUS

On another page of THE MINING CONGRESS JOURNAL appears a final joint statement of the United States Mint and the Geological Survey, showing the preliminary estimate of the production of gold and silver in the United States during the year 1918.

As an argument in favor of some relief or assistance for gold producers nothing further should be necessary. The gold decrease for the year amounts to \$15,257,200, or a loss of 18.01 per cent. The reduction in silver output amounts to 3,861,156 ounces, or a decrease from the 1917 output of 5.03 per cent.

THE MINING CONGRESS JOURNAL suggests that a perusal of the tabulated public statement will be interesting to all mining operators and furnish considerable food for reflection.

EFFICIENCY AND LUXURY

With the exception of food, a belief seems quite general that the conclusion of the war marks the beginning of a general trend toward lower prices. It is not believed, however, that the price level will at any time in the near future again recede to the level of the pre-war period.

So large a percentage of the cost of all products is composed of the labor cost that no great break in commodity prices can be expected, except as the wage factor is proportionately decreased. On the other hand, it is equally true that the wage earner cannot on a lower wage purchase the necessities of life at the present exorbitantly high prices. The holders of stocks of merchandise purchased at high prices cannot be expected to voluntarily dispose of these goods at a loss, and until he does so, the wage earner, who is forced to pay these high prices, must himself receive a proportionately high wage.

One remedy would lie in the direction of greater efficiency. From a very large number of replies made to a questionnaire sent out by this office to the gold mining companies of the country with a view to discovering the exact conditions in that industry, practically all of the replies were to the effect that wages paid were from 25 to 35 per cent more, while the efficiency of labor was from 35 to 50 per cent less than in the pre-war period.

It would not be feasible at the present time to ask the miner to accept a less wage, but it is entirely feasible that he should be asked to speed his production to the highest limit. It is probable that this same ratio of efficiency or something approximating it will be found in other lines of industry. One of the unpardonable errors of organized labor is based on the theory that if labor shall produce to its fullest capacity, that there will not be enough work to go around, and that a shorter day and decreased production in other ways tend to make jobs for all.

The fact is that cheap production, whether because of superior organization, of invention, or of labor efficiency, has brought the luxuries of life within

the reach of the masses. The greater the production the lower the price and the more can be purchased with the wage received. High wages and low efficiency inevitably lead to high prices and scarcity. The maximum efficiency of production machinery is necessary to make available the most of comfort and luxury for the laboring man, as well as for the country as a whole.

The point which is lost sight of by organized labor is that there is no limit on consumption, except the limit of price. As goods become more costly, so costly as to be beyond the reach of the purchasing power of the individual, their use is curtailed or entirely discontinued. This process tends continuously and unerringly toward stagnation, while the production of goods that can be sold at low prices leads to increasing use and frequently to waste, which, while bad for the individual, is good for the general industrial life of the community. It is of little interest to the shoe manufacturer in Massachusetts whether the Joplin lead and zinc producer, who wears out three pairs of shoes annually, is wasteful or not. If he purchases and pays for three pairs of shoes annually for each individual in the community he has made a market for three-quarters of a million pairs of shoes. The Joplinite might be better off if each of the members of his family would wear out but two pairs of shoes annually instead of three pairs. But this would curtail the market of the Lynn manufacturer and prevent steady work to his employees. Some good conservation soul may urge that the unnecessary wearing out of a quarter of a million pairs of shoes annually should be avoided. Theoretically this is true, but practically it would force one-third of the men employed in the Massachusetts shoe factories to seek employment elsewhere. The fact is that the country as a whole is consuming many times more of merchandise per capita than it did 100 years ago. The luxuries of the early days have now become necessities. A large part of the demand for production is based upon the waste of

a certain percentage of the product. The American people do not want to return to the frugal methods of the past. There is no reason why they should return to those conditions, and if it were possible to return, it would mean that from one-third to one-half of the wage earners of the country would be without employment. The cost of production of any article must be such as will permit a price at which the consumer feels that he can afford to buy. The increased efficiency of the wage earners of the country furnishes one method by which prices may be reduced, without a reduction in wages. THE MINING CONGRESS JOURNAL would be glad to have some other plan outlined by which this can be accomplished, without resort to a business panic by which men are thrown out of work until necessity compels the acceptance of a lower wage and more than likely a destructively low wage. THE MINING CONGRESS JOURNAL believes that the price limit should be fixed at that point which will permit a sale of our surplus products in foreign markets. This being permitted, it matters not what prices are, so long as wages and living costs can be maintained upon a proper ratio with respect to each other. It is hoped that this problem will be solved by the selfish intelligence of the nation.

THE REMOVAL OF WAR RESTRICTIONS

The new year opens with the curtailment and restrictions which have been imposed upon industries by war conditions practically brought to a close. Gradually all lines of business, except transportation, will resume old-time conditions upon a ratio of higher prices and commensurately higher profit in the trading world. The readjustment of business conditions is being made as rapidly as can be expected. In some lines the appeal of operators for continued government control has been refused, and gradually every business will be forced to resume its normal position and meet a competition which in some lines threat-

ens to be more fierce than in the pre-war period. Those lines of production in which continuous operation is necessary to preserve the property, where the margin of profit is so low as to require enormous production in order to keep down the overhead charge, in which the productive capacity is in excess of possible consumption, are headed directly toward a chaos of ruinous competition which will, in the end, lead to the demoralization of business from which only the strongest will emerge. The waste of war will some day be refunded. The waste of natural resources, occasioned by a mad scramble to cheapen production costs in order to meet a foolish, a useless and a wholly destructive competition, will create continuing burdens which cooperative foresight might easily avoid.

CHAOTIC RUSSIA AND ITS LESSON

The experience of Russia demonstrates again the extreme difficulty of traveling the road from autocracy to democracy. This great danger lies in the fact that even democracy requires its rules, a fact not appreciated by those who become restive because of the restrictions placed upon them by autocratic control, and who believe that, having eliminated this control, each person will become a law unto himself and enjoy what he deems to be a complete measure of personal liberty.

Unfortunately his neighbor or neighbors may not agree with his theories, and having no power to prevent them interfering with what he believes to be his rights, he feels justified in employing whatever means of protection are at hand.

Physical and mental exercise is necessary to develop strength of body and of mind; discipline is ever essential to growth; self-control requires effort; the individual cannot be trusted at all times to recognize the bounds between liberty and license. The enjoyment of rights which he believes to be his own may so trend upon the rights of another as to provoke animosity and revenge. In-

dividuals must restrain themselves or be restrained by those rules which prescribe their right and duties. Those rules constitute law. There must be some authority to enforce that law, and whatever that authority is is called government. Without government strong enough to enforce that law, anarchy is sure to follow. Without tribunals in which differences of opinions as to these rights may be determined there can be no peaceful community. The powers to enforce those rules constitute the courts of orderly government. Democracy, to be successful, must establish a central controlling agency through which the rights of its individual members are protected. The difference between monarchy and successful democracy lies only in the method of choosing the rules and in making the laws. In making the laws and choosing the agencies of enforcement, Russia's Czar Nicholas accorded to his people as much of liberty, apparently more than they were capable of enjoying. It was an easy matter to dethrone the Czar and destroy the government. It is not an easy matter to reestablish government. Kaiser Wilhelm may not have been a satisfactory ruler, but his abdication leaves no government behind, and it seems probable that in both Russia and in Germany the allied troops will be forced to take possession and establish a government in order to protect the people against themselves. Mexico has been torn by dissension for years. The destruction of the Diaz government was hailed as the dawn of liberty for the Mexican people. The Mexican people fought for liberty and obtained what was worse than slavery. The Russian people dethroned autocracy and replaced it with starvation, murder and rapine. To all of these peoples a return to the old conditions would be unanimously hailed with delight. In the United States there would seem to be no valid reason for agitation against the Government, and yet in every city of the Union, street corner crowds are, and have been, listening to appeals for united action against the established order of things. No word

is more dear to the human heart than liberty.

No great country in the history of the world has brought to all of its citizens a greater degree of liberty and opportunity than has the United States. There is still opportunity for improvement, but there would seem to be no justification for revolutionary changes. Much of effort is worse than wasted to secure reforms which do not reform. The much-heralded benefits which were expected from primary election laws have not materialized. Experiments with the initiative, referendum and recall have not met expectations.

The rise, the tryout and the fall of commission form of government in Denver present many interesting features, as well as a most instructive lesson in self-government. It illustrates most forcibly how the best intentioned people, through personal sacrifice of a high order, may contribute to confusion and bad government and leave behind as the sum of their public service only an illustration of the utter futility of their proposed reforms. Bob Spear, the alleged corruptionist, was charged with all kinds of political wrongs, and his first administration made the special argument to show the necessity of reform. Through the vicissitudes of popular initiative, referendum and recall, a hydra-headed commission form of government was created, embodying many of the reforms demanded. The entire failure of the system brought the people back to the Hon. Robert W. Spear, recently deceased mayor of Denver, who was elected by an almost unanimous vote upon a charter prepared and initiated by himself, giving to himself almost autocratic power. At his death, after ten years of executive control, he left a personally selected successor and commanded the almost universal adulation of the people as a model of efficiency and the best mayor Denver ever had.

After years of turmoil, Denver returned almost to the point of starting, not perhaps to perfect government, but the best government which is possible under present conditions.

THE FUTURE OF RAILROAD CONTROL

Transportation is a fundamental requirement of commerce. Nothing is of practical value until it is removed from the point of its origin. The coal which furnishes our power, the iron from which our machinery is constructed, the gold which measures our values, each is valueless until removed from the point of its origin. In the early days all cities of importance were built at the water's front, where the facilities of water transportation were available. Even in these days of railroads, which carry the great bulk of our freight, nearly all large cities are located at the water's edge, because of this additional facility to the means of removing articles of commerce from one point to another. Railroad facilities have been an essential factor in the industrial development of the United States. Immense fortunes have been made in the construction of competing railroad lines; vastly greater fortunes have been made because of the greater facilities furnished business enterprises. The United States during the past has enjoyed transportation facilities far excelling those of any other country of the world. The compact countries of Europe have not enjoyed a service as frequent or as expeditious as have remote sections of the United States. It is true that many unjust conditions have been created by the private management of railroads, but it is true that far outweighing those conditions which grew up under private management of the railroads were the cheap rates, the luxurious passenger accommodations, and the rapid and effective carrying of freight. Notwithstanding the wonderfully perfect facilities which this country enjoyed, the constant clamor for perfection in railroad service and the desire to relieve the system of its handicap led to the creation of the Interstate Commerce Commission and a control of railroads which, notwithstanding the increasing traffic, makes extremely difficult the maintenance of the increased equipment, the enlarged terminals and all of those increasing facilities required to

keep the service up to the highest standard. When the war broke out, the Government heedlessly located all of its extraordinary industries at the points of the greatest railway congestion, the fuel administration interfered with the delivery of coal during the open season, and the increasing demands upon the railroads were in excess of their capacity. Had the seizure of the railroads by the Government been made by those who were not suspected of a desire for continued government control, little, if any, criticism would have been made against the assumption by the administration of the control of the railroads. During previous years the railroads had asked for an increase of 5 per cent in freight rates, had insisted that this increase was in order that their facilities should be kept up to the required standard. The plea was made the target for unlimited abuse and vilification of railroad men, and a special argument in favor of government ownership of railroads. Under government control, an increase of 25 per cent in freight rates was ordered without hesitancy to meet the cost of transportation, and almost a 50 per cent increase of passenger rates, coupled with an exasperating inconvenience of public travel. Notwithstanding these increased charges for public service, the railroads, which made some profit at the lower rate and with decreased business, are losing money with the higher rates, the increased traffic and the poorer service. It would seem that these conditions would effectually and entirely put an end to any public clamor for continued governmental control. The fact that this question is being seriously considered by congressional committees, justifies the belief that there are some people who have not yet had enough. The mining industry pays approximately 60 per cent of the total freight paid to the railroads of the United States.

This stupendous sum is only part of the tribute which the mining industry is paying for the luxury of governmental management of railroads. THE MINING CONGRESS JOURNAL is anxious to discover

the attitude of its readers upon this great public question, and it asks that its readers will make response to the following questions:

Do you favor the permanent management and ownership of the transportation facilities of the United States by the Federal Government? If not, do you favor private management of railroads under competitive conditions subject to governmental supervision?

THE MINING CONGRESS JOURNAL would like to have these questions answered, not so much upon preconceived notions as to the advantage or disadvantage of government ownership, but more as a reply to the inquiry as to whether the railroad facilities under governmental management are to be preferred to the service offered during the pre-war period.

WAR MINERALS RELIEF

S. 5234 introduced by Senator Henderson, and H. B. 13498 introduced by Congressman Foster, chairmen, respectively, of the Senate and House Committees on Mines and Mining, provide for the relief of those who at the earnest solicitation of government representatives made investment in mining enterprises which gave no promise of permanency, to provide special minerals absolutely essential to the conduct of the war, the supply of which had been cut off by taking the ships engaged in importations from Brazil, New Caledonia, Spain and other countries to carry soldiers and their munitions and supplies to France.

National pride cannot be enhanced by any course other than that which would be accorded by a fair business house to those who, under similar circumstances, had incurred liabilities. What would be said of the United States Steel Corporation if, at a time of a great peril to its property which some unusual and immediate service was required to protect, its board of directors being unable to act because of sickness or absence, the management asked the citizens of the neighborhood to incur unusual expense to protect its property, should it re-

pudiate the obligation thus incurred by those who assisted, because no contract had been authorized by its board of directors?

What would be said of the Standard Oil Company, if the digging of a protecting trench was absolutely necessary to protect its oil storage tanks from an oncoming conflagration, it should refuse to pay the cost of digging the trench because no valid contract had been made for the service. These corporations have been denounced as soulless and heartless and yet no one, for a moment, would expect from them any disposition of a claim for such service but fair compensatory settlement.

Surely this great American Republic will not be less honorable. Surely "My Country" will settle this question in a broad, liberal, fair spirit and demonstrate that it does not "stand upon the bond."

LABOR, INVENTION AND CAPITAL

To insist that prices may come down while wages increase is to detract from the importance and the dignity of labor. Prices are made up of materials and service. Approximately 70 per cent of retail prices is made up of the charge for service, the service of invention, of organization and management, and of labor. Capital by common consent is entitled to earn 4 per cent where there is no risk, 6 per cent where the minimum of risk prevails, and an additional return to cover increase risk inherent in a hazardous business venture. It is generally conceded that a mining investment, because of the wasting nature of its assets, must pay 15 per cent to give its stock a par value. This applies to an established mining enterprise with measured bodies of mineral fully developed.

The developing enterprise usually known as a prospect must promise a much larger return, for it must provide for the risk of non-discovery and of disappointing richness and size of mineral bodies.

The earning of capital is fairly well established and definite. The value of the service of organization and management is more difficult to establish. This earning usually accrues to the consumer as a result of a lower price.

The organization which increases production or decreases selling and distribution costs by wholesale operations, usually lowers prices in order to extend its market so as to absorb its increased production.

This to an extent applies to the service of invention, which is perhaps the most potent force in bringing luxuries within the reach of thrifty people. The invention which enables one man to do as much work as ten men can do without its use is fairly entitled to a share of the increased earnings of the man and the invention.

To properly establish the value of that share is not an easy problem. Its determination must, ordinarily, be established by the law of supply and demand.

To sum up the earning power of capital is fairly well established. The earning powers of organization and management and of invention are variable, being largely determined by the law of supply and demand. Having provided the proper minimum earning of capital, of organization and management and of invention, all of the remaining earnings of productive power should go to labor as its proper share, providing that labor carries its share of the hazards of production.

The wage system is a device by which the reward of labor is made uniform and as continuous as the law of supply and demand will permit, while relieving labor from the risks of the involved business. Partnership of labor and capital embodies the correct principle, but labor is unwilling to share the losses. The partnership idea embodies a sharing of both losses and profits.

No matter what the system, the fact remains that a very large part of the price paid consists of the cost of the labor involved in the production, the distribution and the exchange, all of

which must be paid by the consumer. Wages may be high as measured by the day or week, but they must be low as measured by output before prices can be reduced. To say else is to detract from the importance of labor to the industrial progress and welfare of the nation.

THE WAR MINERALS DIVISION ASKS CONGRESSIONAL RELIEF

The mining fraternity generally is aware of the main facts as to losses now facing the producers of war minerals. There were several contributing causes, the principal being the sudden cessation of hostilities in Europe and the failure of the administration to make the War Minerals Bill immediately effective. The conditions under which hundreds of men of small working capital were led into investments which now threaten to prove their financial ruin were such that even administration officials openly admit moral responsibility for the distress. The American Mining Congress issued a general call for the assembling together of the producers of chromite, manganese, pyrites, tungsten, and magnesite in Washington on December 16 for the purpose of discussing frankly, at an open meeting, the problems confronting the producers in order that some concrete plan might be brought out of the many suggestions offered.

More than fifty operators, representing about 1,200 properties, attended all of the sessions of the Congress, which lasted throughout Monday and Tuesday, December 16 and 17. Some of the statements made to the conference brought tears to the eyes of the auditors, and there were several dramatic moments when men, who were facing financial disaster, stated their cases in plain English. One very interesting and significant fact was the attendance at practically all of the sessions of several members of both House and Senate, and several government officials, among them Director Manning of the Bureau of Mines, were present at all conferences.

At the Tuesday morning session there occurred another significant and interesting incident when James Lord, chairman of the mining committee of the Department of Labor War Board and president of the mining department of the American Federation of Labor, appeared as the personal representative of Mr. Gompers and addressed the convention in very frank terms, stating his views as favorable to relief legislation in behalf of the operators now in distress. Mr. Lord advised the operators present that the major troubles of mining operators are the result of lack of organization and unity of effort. He drew a dramatic picture in comparing the unity of the Laborites with the disorganized condition of the producers. Mr. Lord's talk was one of the most impressive and valuable of the entire conference as giving in exact language the reason for the confidence of the American Federation of Labor in its own prowess and as placing that organization side by side with the producers' organization in seeking justice for the men whose fortunes are now at stake.

Another interesting feature of the conference was the unanimity of spirit between the operators, it being agreed that personal opinions and desires must be set aside and the strength of the Congress expended in an effort to secure the form of relief which seemed most reasonable and advisable, regardless of whether or not the measure proposed should provide full relief for all operators. The conference, of its own volition, requested it be accepted into the American Mining Congress as a national division of the work, to be known as the War Minerals Division. It organized its own machinery by the election of an executive committee with a permanent chairman and secretary. It also proceeded to make its proposed campaign for relief an effective one through properly financing itself before the delegates left for home.

Secretary Lane was constantly in touch with the work of the conference, and twice during its sessions conferred with committees appointed by the conference

to talk over with the secretary the viewpoint held by that official. Chairman Henderson of the Senate Committee on Mines and Mining, Chairman Foster of the House Committee and several other members of both House and Senate addressed the conference briefly, stating their belief that there should be some form of relief afforded without delay.

Immediately following the closing of the main sessions, the majority of the members of the executive committee, most of whom reside a great distance from Washington, went into executive session to consider the various suggestions made during the conference, and after five days of continuous consultation between themselves and leaders and officials of the Administration, prepared a bill which appears in full in another column of this issue of the JOURNAL. This bill was promptly presented in both House and Senate by the chairmen of the two Committees on Mines and Mining, and by Congressmen Oldfield of Arkansas and Welling of Utah in behalf of their constituents.

The future of this relief movement rests partly in the hands of the operators themselves, and it is hoped that no stone will be left unturned to prevent what would be no less than a national calamity that would, for a term of years, slow down the movement for the development of domestic production of the minerals now generally recognized as absolutely necessary to national security.

FIRST NATIONAL DIVISION NOW BEING ORGANIZED

The conference of mineral producers, called in Washington to discuss the post-war problems, paid a high compliment to the American Mining Congress in adopting the following resolution:

Whereas, We recognize the value of united action on the part of the producers of raw materials and the necessity for cooperation between all branches of the mining industry in the United States; and

Whereas, The American Mining Congress has already established an unquestionable standing in the national capital as the representative of the majority of

the producers of minerals and metals; and

Whereas, The American Mining Congress has already given considerable time to the interest of the producers of metals and minerals listed in the War Minerals Bill as being necessary to the economic development of the United States, such organization having called together the producers of manganese, chrome, tungsten, pyrites and magnesite in this conference for the purpose of securing concrete expression of the requirements of all these producers in connection with making the War Minerals Bill operative or securing some other form of relief; be it hereby

Resolved, That the War Minerals Division of the American Mining Congress, as organized by this conference, does hereby call upon all producers of war minerals to affiliate with the American Mining Congress and to cooperate with the War Minerals Division.

Resolved, further, That the executive committee is herewith instructed to forward a copy of this resolution, together with a special appeal, to all producers interested in this subject.

The War Minerals Division, thus created, includes in its membership all of the metals and minerals named in the War Minerals Bill as necessary to national security in time of war. Many of these substances are of vast importance in establishing upon a firmer basis the steel and other like industries of the country. This division at once, and very naturally, assumes a most important work in behalf of national development and should have the open endorsement, through membership and support, of every man and corporation interested in the production of these minerals and in the national welfare. The selection of the first executive committee of this conference was made from among the operators present at the conference, because of the fact that these producers assembled as a purely business proposition to fight for their rights in connection with the imminent disaster. The conference, however, adopted a subsequent resolution, as follows:

Whereas, The War Minerals Division of the American Mining Congress has been organized by the producers of manganese, tungsten, pyrites, chromite and magnesite, called in conference by the American Mining Congress, in behalf of the minerals and metals named in the War Minerals Bill; be it hereby

Resolved, That the executive committee is hereby authorized to add to its membership representatives of minerals other than those represented on the floor of this conference, as in its discretion seems to be advisable, or to fill vacancies in its membership as may, from time to time, be deemed necessary, or to approve temporary substitutes.

The executive committee, we understand, is now making an effort to find from among the leaders of the producers of other minerals and metals included, men who are willing to devote their time to the good of the industry and who can be named by the executive committee in order to complete the machinery of that organization.

Mr. A. J. Edwards, who was selected as the permanent chairman, is heavily interested in manganese production in the Batesville district. He is also a practicing attorney in Los Angeles and Chicago. The chairman has promised to devote all of his time to the direction of the campaign which will be carried on for relief. Chairman Edwards will be ably seconded by Vice-Chairman Weirum, a producer of magnesite in Washington, and who has agreed to remain in the national capital until the fight is ended. The War Minerals Division has already established headquarters with the American Mining Congress, and its executive staff is working at high speed to carry out the plans of the conference. This is one of the most carefully and thoroughly organized efforts ever made by mining men in their own behalf, and will, THE MINING CONGRESS JOURNAL hopes, prove to be the beginning of a new era in organized effort on behalf of the greatest basic industry in the United States.

Exportation of Tin and Tinplate

The War Trade Board announce that the restrictions hitherto existing on the exportation of tin and tinplate have been removed, as the necessity for strict conservation of tin and its products no longer exists. If, therefore, applicants will refile applications for which licenses have been hitherto refused, these will be given immediate consideration.

DIRECTORS' ANNUAL MEETING

Most Prosperous Year in the History of Mining Congress

With its greatest year of accomplishment drawing to a close, the annual meeting of The American Mining Congress, which was held in New York City, December 10 and 11, assumed unusual interest and importance.

There were in attendance members of the Congress, representing every branch of the mining industry. Keen interest was evidenced in the discussions resulting from the questionnaire which had been previously sent to all members, showing that representatives of the mining fraternity present realized the seriousness of the problems concerning the industry and the very great necessity of working out some plan whereby all conditions might be stabilized as quickly as possible and by the combined help of operator and employee.

Secretary Callbreath read a number of the most interesting and significant replies sent in by members, one dominant note throughout the correspondence indicating a very general belief that every phase of production cost must be reduced, and that any attempt to readjust conditions—except it be done on a general level—of elements moving unitedly to-

ward the general result might create distress both commercially and politically.

The report of the accomplishments of The American Mining Congress during the period of the war showed such progress in the increase in strength and results that President Douglas, in an enthusiastic address, complimented the Congress and the Directors for the splendid accomplishments of the year, and stated that he believed it was time that The American Mining Congress was placed upon a more practical footing and in a position of greater power as the official representative of the mining fraternity.

In talking over the work of the Mining Congress, President Douglas expressed the belief that it could perform an invaluable national service by urging the establishment of a Department of Mines, with its head a member of the President's Cabinet. He brought out very clearly the peculiar conditions under which the Bureau of Mines was forced to act in behalf of mining while merely a part of a general division of the national administration, and believed that mines and mining, collectively the most important industry in the United States, had a right to direct representation in the councils of the national administration.

He discussed favorably a plan submitted by Secretary Callbreath for the development of a Bureau of Mining Economics and the maintenance in Washington of a permanent cabinet of specialists, devoting full time to working out the problems of the various phases of the industry.

Directors Wells and Day also discussed quite at length the proposals of the secretary for the establishment of the enlarged effort, and both were favorable to assuming the increased labor as fast as financial resources seemed available.

John C. Howard, of Utah, said: "I have been a member of the organization only a short time, but sufficiently long to be convinced of its usefulness. We all realize that the day is here when we must present our claims to Congress and the Administration through properly accredited and thoroughly organized channels. My experience proves that Congress welcomes information concerning the issues at hand. Often laws are enacted without committees being properly informed, and probably one of the greatest functions of The American Mining Congress is that of enlightenment. It will require a long time to finance the organization on the basis proposed by the secretary, but I believe that we should begin, and I am in favor of the plan being put into effect in a moderate way.



JOHN C. HOWARD

Newly elected director of The American Mining Congress

so that we will not burden ourselves too heavily."

Some discussion was raised by the proposal of Secretary Callbreath to establish a Department of Industrial Welfare, a fear being expressed by some present that it would lead the Congress into participation in labor disputes, while others agreed that a Department of Welfare, devoting its energy to physical, mental and spiritual uplift of operatives and their families, would be a valuable work for the Congress to assume.

Mr. Howard and others favored better housing for the Mining Congress in Washington, and believed that greater efficiency would follow the enlargement of housing facilities at a very early date.

An auditing committee, appointed by President Douglas, consisting of Messrs. Bulkley Wells, of Colorado; John C. Howard, of Utah, and A. C. Morrison, of New York, reported favorably upon the acceptance of the financial report of the secretary.

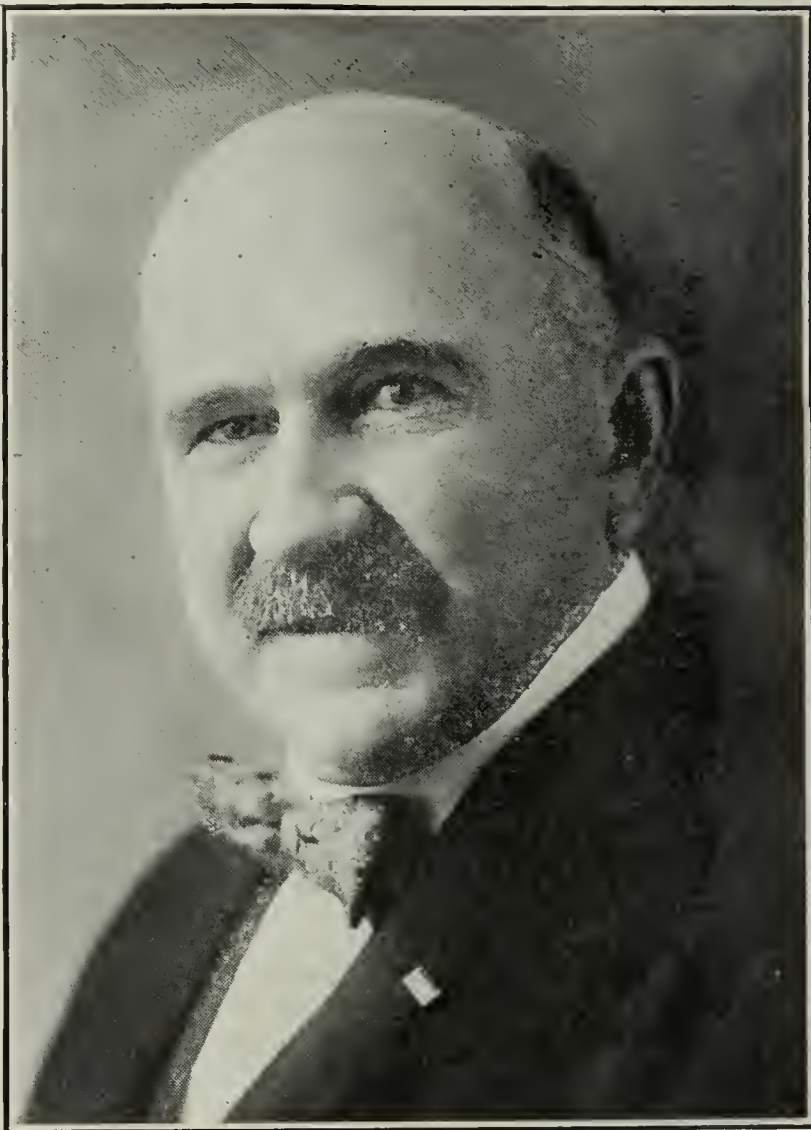
President Douglas appointed Messrs. John T. Barnett, of Colorado; Henry Mace Payne, of New York, and J. C. McCutchem, of Pittsburgh, as a nominating committee, and on the report of this committee the following directors were elected:

For one year—John C. Howard, Salt Lake City, Utah. For three years—Bulkley Wells, Denver, Colo.; Harry L. Day, Wallace, Idaho; E. L. Doheney, Los Angeles, Cal.; E. P. Mathewson, New York City.



E. L. DOHENY.

Another of the new directors of The American Mining Congress.



E. P. MATHEWSON.

Elected a Director of The American Mining Congress at the New York meeting.

On motion of Mr. Wells, the following resolution was adopted:

"Resolved, That The American Mining Congress accept as a general program the reorganization and development plan submitted by the secretary, the actual adoption of this plan to be effective only in the discretion and by order of the directors, and then only as the assured income of the Congress will cover the increased expenses so to be incurred."

A special financial committee, of which Mr. Wells was chairman, reported in favor of adopting the following plan of financing the Bureau of Mining Economics under control of the Mining Congress:

Ten cents assessment per \$1,000 of gross production.

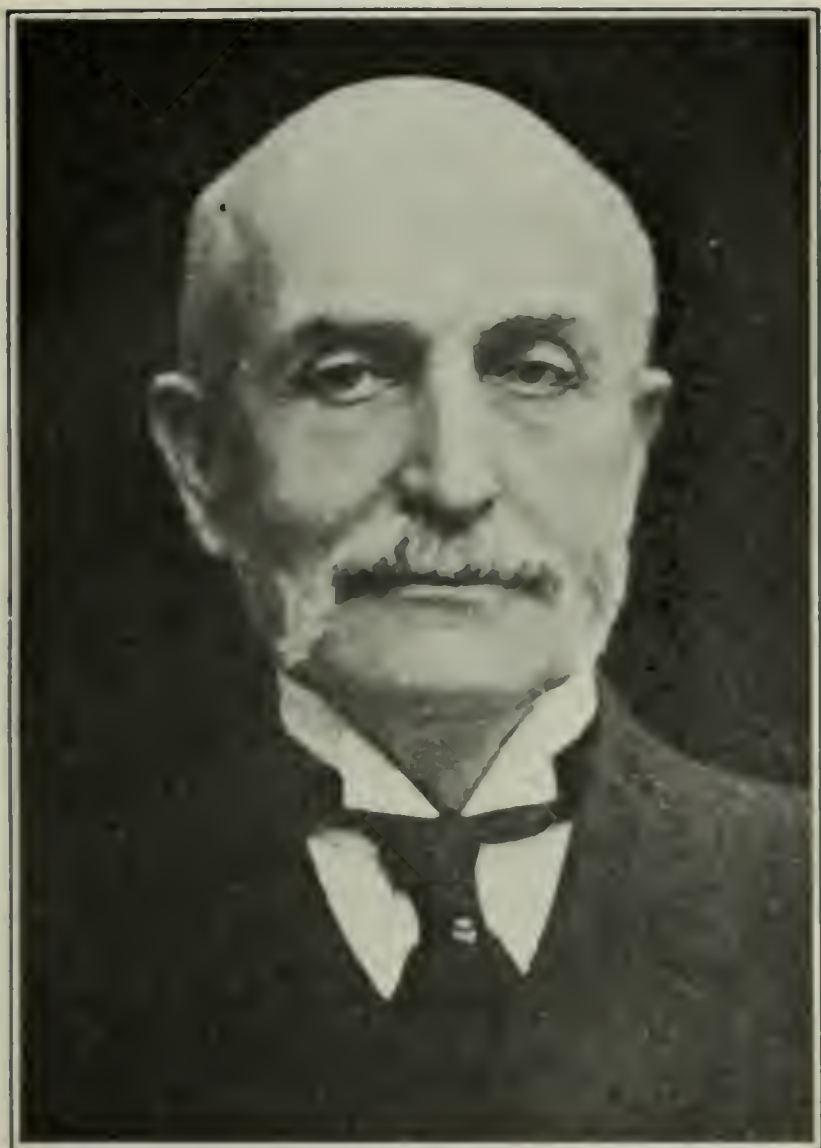
A minimum subscription of \$60 per year (\$5 per month). A maximum subscription of \$6,000 per year (\$500 per month) per corporation.

After brief discussion, the report of the finance committee was adopted and the secretary authorized to enter into contracts for the establishment of the bureau and other new features of the work as proposed.

ORGANIZATION OF DIRECTORS

The newly elected Board of Directors met in the members' room of the American Institute of Mining Engineers immediately following the closing of the open conference of directors with members.

There were present the following directors:



M. S. KEMMERER

Re-elected Vice-President of The American Mining Congress, at the New York meeting.

Walter Douglas, Bulkeley Wells, Harry L. Day, John C. Howard, George H. Crosby, E. P. Mathewson, M. S. Kemmerer.

The following officers were elected by unanimous vote:

President—Bulkeley Wells.

First Vice-President—Harry L. Day.

Second Vice-President—M. S. Kemmerer.

Third Vice-President—George H. Crosby.

James F. Callbreath was reelected secretary.

Messrs. Wells, Kemmerer and Mathewson were designated as the Executive Committee.

A vote of thanks and appreciation was extended to Mr. Douglas, who, through two years of its presidency, had shown a deep personal interest in the work of the Congress, and to whose unselfish and effective cooperation was due in a large degree the development of the Congress' work.

A resolution was adopted expressing the appreciation by the directors of the work of Mr. Callbreath as secretary of the organization during a long term of years.

FINANCIAL REPORT

The financial report showed that \$36,000 was expended by the organization for its work during the year.

The subscriptions from the various branches of the industry, including membership dues received, were approximately as follows:

Copper.....	25%
Lead and zinc.....	15%

Iron and steel.....	2%
Oil.....	17%
Gold and rare metals.....	26%
Coal.....	15%

The subscriptions from memberships received during the year represented Alaska, Alabama, Arkansas, California, Canada, Colorado, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Massachusetts, Minnesota, Missouri, Montana, Nevada, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

The report also showed the following state organizations having contributed from \$500 to \$3,000 each:

Arizona Chapter, American Mining Congress.

California Metal Producers' Association.

Colorado Chapter, American Mining Congress.

Idaho Metal and Mining Association.

Illinois Bituminous Coal Operators' Association.

Indiana Bituminous Coal Operators' Association.

Mid-Continent Oil and Gas Association.

Mine Operators of Montana.

Southwestern Coal Operators' Association.

Utah Chapter, American Mining Congress.



GEORGE H. CROSBY

Re-elected Vice-President of The American Mining Congress, at the New York meeting.

GOLD PRODUCTION SHOWS
\$15,257,200 DECREASE IN 1918

The Bureau of the Mint and the Geological Survey have issued the following joint statement as to the preliminary estimate of the production of gold and silver in the United States during the calendar year 1918:

State or territory	Gold		Silver Fine ounces & value (*)
	Fine ounces	Value	
Alaska.....	440,622	\$9,108,500	796,836
Alabama.....	36	700	2
Arizona.....	278,647	5,760,200	6,771,490
California.....	832,389	17,207,000	1,555,417
Colorado.....	621,791	12,853,500	6,982,313
Georgia.....	169	3,500	41
Idaho.....	30,764	636,000	10,188,056
Illinois.....	—	—	8,939
Maryland.....	—	—	164
Michigan.....	—	—	491,939
Missouri.....	10	200	40,948
Montana.....	153,375	3,170,600	15,341,793
Nevada.....	322,276	6,662,000	10,113,405
New Mexico.....	30,871	638,200	763,758
North Carolina.....	38	800	9
Oregon.....	60,951	1,260,000	150,207
Philippine Islands..	44,202	913,700	12,597
South Dakota.....	328,305	6,786,700	165,865
Tennessee.....	263	5,400	131,931
Texas.....	5	100	612,436
Utah.....	152,018	3,142,500	13,439,811
Vermont.....	47	800	5,117
Virginia.....	20	400	2,967
Washington.....	16,556	342,300	302,446
Wyoming.....	18	400	719
Total.....	3,313,373	\$68,493,500	67,879,206

Compared with the 1917 production: Gold, \$83,750,700, and silver, 71,740,362 ounces. These figures indicate reduction in gold output of \$15,257,200, and in silver output, 3,861,156 ounces. The 1918 gold output is the smallest in twenty years, and the silver output is the smallest since 1913.

* Valued at the Government buying price of \$1 per ounce.

Loving Cup for Mark L. Requa

The personnel of the oil division of the United States Fuel Administration has presented Mark L. Requa, general director of the division, with a silver loving cup. The presentation speech was made by Frank J. Silsbee, director of the Statistical Bureau.

Mr. Requa, in accepting the cup, thanked his co-workers for their steadfast cooperation and close attention to their duties during his directorship.

Import Restrictions on Asbestos Lifted

The War Trade Board announces that List of Restricted Imports No. 1 has been amended by the removal of Item 4, Asbestos. Applications for import licenses for ocean shipments of asbestos will therefore now be considered.

It is also announced that the requirement of indorsement of bills of lading to the Asbestos Trades Bureau will be waived as to licenses hereafter issued.

AMERICAN MINES MAKE
MAGNIFICENT SHOWING

Production in 1917 and 1918 Exceeds \$10,-
000,000,000 — Metallic and Non-Metallic
Yields Show Big Gains.

The magnificent record of over \$10,000,000,000 in mineral output by the United States for the last two years is indicated by preliminary estimates of the United States Geological Survey, Department of the Interior, for 1918, combined with known final figures for 1917.

These estimates show that the output of metallic products, chief of which are pig iron, copper, ferro-alloys, lead, zinc, gold, silver, and aluminum, was valued at over \$1,895,000,000 in 1918, against \$2,091,825,000 in 1917, and that the non-metallic products, principal of which are coal, petroleum, clay products, cement, and natural gas, were valued at over \$3,265,000,000 in 1918, against about \$2,889,000,000 in 1917.

The total for 1918, including unspecified products, is roughly estimated by the Survey at \$5,160,000,000, a good increase over the total of nearly \$5,011,000,000 for 1917, and a vast increase over \$3,513,972,000 for 1916.

Meso-thorium a Substitute for Radium

The increasing demand for radium for medical work, but more particularly for luminous paint, has made the question of possible radium substitutes of considerable importance. Radium luminous paint has been used in the war for a number of purposes, more particularly on the dials of instruments used on airplanes, so that these instruments can be read at night; for electric push buttons, door numbers and small images for shrines, etc. The paint is permanently luminous in the dark, and contains from 0.1 to 0.25 milligrams radium element to 1 gram of zinc sulphide. A luminous watch face usually has from 10 cents to 20 cents of radium on it.

An excellent substitute for radium for certain purposes is meso-thorium. This is a radio-active element found in monazite sand and other thorium minerals. When first extracted it is not in a satisfactory condition for luminous paint, but must be allowed to "ripen" for several months, or even a year, before it can be used. During this time the Alpha radiation which is required for luminous paint becomes sufficiently strong. On the other hand, the beta and gamma radiation of meso-thorium grows rapidly, and it can be used for medical purposes within a few days after preparation.

ARIZONA INCREASES YIELD OF COPPER AND OF GOLD IN 1918

The output of gold, silver, copper, lead, and zinc from Arizona mines in 1918, according to the estimate of Victor C. Heikes, of the United States Geological Survey, Department of the Interior, had a total value of about \$205,500,000, an increase of \$3,800,000. There were decided increases in both the copper and the gold of Arizona during the year. The silver output was very close to the production of 1917, but the lead was only half as much, and the zinc fell to a very small production. Arizona was fortunate in being practically free from strikes, and all the smelting plants were active throughout the year.

The production of gold from Arizona mines increased from \$5,068,193 in 1917 to about \$5,551,000 in 1918. This was an increase of nearly \$500,000 in spite of the increase in the cost of supplies and the difficulties in procuring men for labor. A large part of the gold was obtained from the smelting of copper ores, the tonnage of which was increased markedly during the year, but nearly half of Arizona's total gold output was due to the cyanidation of gold ores in the San Francisco district, of Mohave County, known as the Oatman region. The United Eastern remained by far the largest gold producer of the state, and the Tom Reed continued to supply notable gold output. The Gold Road mine was not productive, and the output of the Copper Chief in Verde district was much less.

The mine output of silver decreased slightly, from 6,983,913 ounces in 1917 to about 6,787,000 ounces in 1918. On account of the increase in the price of silver, the value of the output increased from \$5,754,744 to about \$6,569,000. It is probable that the slight decrease in quantity resulted from a decrease in shipments of lead ore, which contains considerable silver. The increase in the copper output came partly from ores which contain little or no silver, such as the New Cornelia, at Ajo.

The mine output of copper increased from 712,166,891 pounds in 1917 to nearly 777,000,000 in 1918. In spite of this increase of nearly 65,000,000 pounds in quantity, the value of the output decreased from \$194,421,561 in 1917 to a little over \$192,000,000 in 1918, as the average price of copper decreased from 27.3 cents to about 24.75 cents a pound. Aside from the steady operation of the copper plants of Arizona, two of the main features which contributed to the larger copper production were the blowing in of the new copper smelter of the United Verde Extension Co. at Verde near Jerome, and the continuous operation of the leaching plant of the New Cornelia at Ajo. Another decided increase resulted

from the International plant at Miami, which treats concentrate from the Inspiration property. In Greenlee County the plants of the Shannon, Arizona Copper, and Detroit returned to normal outputs after the strikes of 1917.

The mine production of lead in Arizona decreased from 23,465,445 pounds in 1917 to less than 13,000,000 pounds in 1918. The value of the output decreased from \$2,018,028 to about \$985,000. One of the main reasons for the decrease in lead as well as in zinc, was the idleness of the Tennessee mine, in Mehave County. As there were very few shipments of zinc ore or lead-zinc ore, the lead from residues was considerably less. Most of the lead came from the Copper Queen and Shattuck Arizona properties in Cochise County.

The output of recoverable zinc decreased from 20,894,860 pounds in 1917 to about 1,800,000 pounds in 1918. The value decreased from over \$2,000,000 to about \$151,000. The Golconda mine, in the Wallapai district, Mehave County, formerly a large producer, was closed, and the Tennessee mine, which produced lead-zinc milling ore, was practically worked out and sold to the Schuylkill Mining Co., which owns adjoining ground. Considerable zinc shipments came from the Duquesne property in Santa Cruz County, and from the Hillside property, in Yavapai County.

Dividends from Arizona mining companies during the first eleven months of 1918 amounted to \$35,003,683, exclusive of those of the Phelps Dodge Corporation, which also operates mines in Mexico and New Mexico. The total, including those of the Phelps Dodge Corporation, was nearly \$45,000,000. The companies paying dividends were the Miami, Arizona Commercial, Inspiration, Iron Cap, Shattuck, United Eastern, United Verde, United Verde Extension, Arizona Copper, Calumet & Arizona, Consolidated Arizona Smelting, Magna, Old Dominion, Ray Consolidated, New Cornelia, and Phelps Dodge.

COLORADO'S METAL OUTPUT SHOWS FALLING OFF IN 1918

The mine output of gold, silver, copper, lead and zinc in Colorado for the first eleven months of 1918 and the estimated output for December, according to data compiled by Charles W. Henderson, of the United States Geological Survey, Department of the Interior, amounted to \$12,950,000 in gold, 7,120,000 ounces of silver, 64,300,000 pounds of lead, 6,450,000 pounds of copper, and \$5,200,000 pounds of zinc, having a total value of \$33,260,000, compared with \$15,849,302 in gold, 7,304,350 ounces of silver, 67,990,000 pounds of lead, 8,122,000 pounds of copper, and 118,200,000 pounds of zinc, having a total value of \$41,988,935, in 1917. This

estimate shows a decrease of \$2,900,000 in gold, 184,000 ounces in silver, 3,690,000 pounds in lead, 1,660,000 pounds in copper, and 38,500,000 pounds in zinc. At the increased price for silver the value of the silver yield was \$880,000 greater than in 1917, but the value of copper decreased \$624,000, lead \$1,025,000, and zinc \$9,520,000.

The decrease in gold showed in both bullion products and in ore and concentrates marketed directly to lead plants, but there was an increase of silver contents in ore marketed direct from the mines, the decrease in silver and lead being due to a decrease in lead concentrates from lead-zinc ores.

The five lead-copper plants at Salida, Globe, Pueblo, Durango and Leadville were operated steadily, with an actual increase in tonnage from Colorado mines, but a decrease in tonnage from outside states, particularly in zinc residues. The United States Zinc Company's magnetic wet-concentration mill and smelter at Pueblo, treating lead-zinc sulphide ores from the western states, was not as actively operated as in 1917. The River Smelting and Refining Company's plant at Florence continued to treat low-grade zinc-lead copper ores from Colorado and other western states. The Western zinc-oxide plant at Leadville was steadily operated on Leadville zinc carbonate ores, and the new Ohio zinc-oxide plant at Florence, which started in June, 1918, operated on Colorado zinc carbonate ores. The Empire Zinc Company's magnetic separation mill at Canon City was operated steadily on Red Cliff and Leadville zinc sulphide ores, but the Western Chemical Company's magnetic separation wet-concentration mill, treating similar ores, was idle part of the year. Copper ore and matte and cyanide precipitates were shipped from Colorado to the smelter at Omaha, and some copper and lead ores were shipped to plants in Utah. The tonnage of zinc ores sent to Kansas, Oklahoma, and eastern states zinc oxide and spelter plants decreased heavily. Much silver-bearing pyrite was used for the manufacture of sulphuric acid up to the date of the armistice, and some pyrite went to the east and south. Considerable manganese ore, chiefly from Leadville, was shipped to Pueblo and to far eastern plants.

As predicted in the Survey's six months' review, issued in July, the production of Cripple Creek fell from \$10,394,847 in 1917 to \$8,294,000 in 1918, a decrease for the year of \$2,100,000. The Portland Colorado Springs cyanidation mill was closed in April, and the ores that had been going to that mill were sent to the Golden Cycle, at Colorado Springs, which has been operated continuously despite high costs of materials and labor and shortage of labor. In August the Portland Victor mill was closed,

and the low-grade ores of the district were transferred to the Portland Independence mill, which has been operated steadily throughout the year. Ore direct to smelters, though small, still represented a tonnage not much smaller than in 1917.

Lake county, chiefly Leadville, but including also the Lackawanna Gulch, Sugar Loaf, St. Kevin, and Wortman lode districts and the Arkansas River dredge district, produced \$879,000 in gold, 2,348,000 ounces of silver, 23,700,000 pounds of lead, 1,600,000 pounds of copper, and 44,600,000 pounds of zinc, having a total value of \$9,000,000, compared with \$1,160,180 in gold, 2,177,638 ounces of silver, 18,586,167 pounds of lead, 2,168,912 pounds of copper, and 60,000,000 pounds of zinc, with a total value of \$11,265,077, in 1917. Manganese-iron ore, manganese-silver fluxing ore, lead carbonate, and zinc carbonate continued to be shipped from the Downtown district, which was unwatered in 1916. Considerable sulphide ores were shipped from the Fryer Hill district (also unwatered in 1916) until June, when the entire operation of this area under the management of the United States Smelting Company was abandoned. The year saw the close of the Moyer-Tucson mines of the Iron Silver Company, which had, however, purchased additional producing property. The cessation of pumping at the Moyer added to the water at the Cordwinze of the Yak Company, so that with increased costs of mining and other difficulties this property was not producing to its usual standard.

In the San Juan region the situation as to labor, mining costs, and influenza was particularly arduous, but despite these difficulties San Juan County's production fell off only \$60,000 in gold, 200,000 ounces of silver, 1,000,000 pounds of lead, and 600,000 pounds of copper and equalled the output of 1917 of 3,200,000 pounds of zinc. San Miguel County mills, treating ore from both San Miguel and Ouray counties, produced \$2,180,000 in gold, an increased yield, 1,170,000 ounces of silver, 6,000,000 pounds of lead, 1,000,000 pounds of copper, and 400,000 pounds of zinc. The production of zinc for this country showed the only material decrease. Ouray County mines, as operated from the Ouray side, showed an increase for all metals, owing to work at Red Mountain and Sneffels. Development work was also continued at the Camp Bir mine, and the long low-level adit was completed during the year. If ore is found in quantities at depth in this mine, the Ouray County production should show a material increase for 1919. La Plata County mines were practically idle, the production being only nominal. Dolores County (Rico) yield showed small decreases for gold, silver, and copper and appreciable de-

creases for lead and zinc. Hinsdale County's production was the largest in years, owing to the reopening of the Ute and Ulay mines, which were, however, closed in the fall. Mineral County (Creede) showed decreases for all metals except silver, for which there was an increase of over 100 per cent. Saguache County mines were not active, the plans for construction of a mill by the Rawley Mining Co. having been abandoned.

Summit County's zinc production fell from 19,868,816 pounds of recoverable metal, valued at \$2,026,519 in 1917, to 16,200,000 pounds, valued at \$1,328,000 in 1918, and gold production from deep mines and dredges fell from \$723,514 in 1917 to \$473,000 in 1918. Eagle County mines were active under the management of the Empire Zinc Co.

Boulder County's yield of both gold and silver decreased very considerable; Clear Creek's gold yield decreased \$100,000, silver 200,000 ounces, lead 1,000,000 pounds, copper 200,000 pounds, and zinc very appreciably. Despite the apparent idleness of most of the mines and the almost complete idleness of all mills in Gilpin County the yield was approximately 60 per cent of the production in 1917. Early in the year the long established Chamberlain sampling plants at Black Hawk and Georgetown were dismantled, and in October the Idaho Springs plant was closed, but another company remodeled one of the idle sampling plants at Idaho Springs and began receiving ores in November.

Chaffee County's production showed decreases for all metals except zinc, which had a small increase; and Pitkin County (Aspen) yielded 570,000 ounces of silver and 11,600,000 pounds of lead.

FURTHER MODIFICATIONS OF OIL CONTROL BY GOVERNMENT

The Fuel Administration has announced that, in line with the general policy of the Government of lifting all restrictions as rapidly as conditions would warrant, it has asked the oil industry to suspend its voluntary plan to stabilize prices and obtain uninterrupted flow of crude oil which was recently extended for a period of three months; and at the same time had taken similar action as to any voluntary understandings or agreements with respect to prices of crude oil or its refined products.

This suspension will be permanent unless events prove the necessity of again exercising control. The administration points out, however, that the licenses now outstanding will remain in full force and effect until the promulgation of peace, and that the rules and regulations as amended by the order of December 7 are still effective.

All agreements will continue subject to cancellation or assignment on request of the United States Fuel Administrator.

The allocation of supplies of petroleum products for the Allies will terminate with the allocation for shipment during the month of January. The priority order with respect to export shipments of gasoline and kerosene will terminate with the allocation system. The allocation will continue to cover aviation gasoline and other supplies especially drawn from the interior for foreign account until these supplies are finally taken over by the Allies or until notice of discontinuance is issued by the Fuel Administration.

The order now outstanding regarding natural gas will remain unchanged, in its modified form.

By these various measures the Fuel Administration hopes to restore the oil industry to normal conditions with as little disturbance as possible; keeping in mind the fact that the authority for control still exists and will be exercised, should occasion require, pending the promulgation of final peace.

EXTENDED PERIOD NECESSARY TO REOPEN LENS COAL MINES

Damage done by the Germans to the coal mines at Lens, France, is so great that production cannot be resumed for periods ranging from eight months to three years, in the opinion of members of the special commission of the United States Fuel Administration as expressed in a cablegram received by Harry A. Garfield, United States Fuel Administrator.

The message, which was sent from Paris after an inspection of mines in the Lens region, states that the damage varies in degree; that production cannot be resumed for periods ranging from eight months to three years, and that plans for reconstruction are still under advisement.

The cablegram was signed by Walter E. Hope, who joined the Fuel Administration September 19, 1917, as Director of the Bureau of State Organizations. He, with S. Brinckerhoff Thorne, coal expert of New York, and James H. Allport, Engineer to the Fuel Administration, make up the commission which went to Europe late in October to inquire into conditions and government regulations affecting the coal industry in foreign countries.

Hennen Jennings, who has been spending several weeks in Florida, returned to Washington during the month, and is planning to leave early in January for an extended trip to California. Mr. Jennings has just completed his report on the gold situation for the Bureau of Mines.



WAR MINERALS STAFF OF BUREAU OF MINES

Left to right: A. G. White, W. C. Phalen, J. E. Spurr (Chief), H. C. Morris, C. M. Weld. Back row: J. F. McCuire, J. C. Orchard, G. J. Salmon, A. W. Stockett, H. S. Mudd, A. E. Wells, F. H. Probert and H. A. Eukler

WOULD SUBSTITUTE COKE, COAL OR OIL FOR NATURAL GAS

Wherever the supply of natural gas is declining at a rapid rate, the United States Fuel Administration is advocating the changing of appliances so as to make possible the substitution of either coke, coal or oil.

In the United States as a whole, the supply of natural gas is on the decline and in some sections, such as Ohio and Indiana, the situation is especially serious. In some places, especially in the Middle West, there has been extreme wastage, because of leakage from the pipes, and the Fuel Administration is urging all possible conservation of this natural fuel.

In winter, the demand for natural gas for domestic purposes goes up in exact proportion to the drop in the temperature and, as domestic consumers must be served first, the Fuel Administration is avoiding as far as possible the issuance of priorities to industries.

Texas Metal Mining in 1918

The Presidio silver mine in Texas was in continuous operation during the year 1918, according to Charles W. Henderson, of the United States Geological Survey, Department of the Interior. Desultory mining was also carried on in the Van Horn and Sierra Blanca districts, and several shipments of copper ore were made from deposits in the "Red Beds" of Foard and Knox counties. The result was a small output of copper and lead, and an output of silver of 590,000 ounces.

Diamond Control Ceases

The War Trade Board announced January 4 that the supervision heretofore exercised by the War Trade Board through the American Diamond Committee of New York over the importation of polished and rough diamonds, diamond dies, and diamond tools will be discontinued on January 10, 1919. The control of these commodities by license from the War Trade Board will still continue.

CONGRESSIONAL RELIEF ASKED FOR WAR MINERALS MEN

The following bill, prepared by the executive committee of the War Minerals Division of the American Mining Congress, was presented in the Senate December 23 by Hon. Charles B. Henderson, chairman of the Committee on Mines and Mining, United States Senate [S. B. 5234], and on the same day in the lower house by Dr. Martin D. Foster, chairman of the Committee on Mines and Mining [H. R. 13498], and Congressman William A. Oldfield, representative from Batesville, Ark. In both houses the bill was placed on second reading and ordered printed without delay. It is agreed by the chairmen of the committees that the bill will have early consideration in committee, and the War Minerals Division is hoping to secure final action before the adjournment of this session of Congress.

A BILL

To supplement an act of Congress, approved October 5, 1918 (public, numbered 220), and to authorize the Secretary of the Interior, from the funds appropriated by said act, to determine, adjust, and pay losses sustained by investments preparatory to production of war minerals mentioned in said act.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the Secretary of the Interior be, and hereby is, authorized and directed to ascertain and determine the amount or amounts of money heretofore invested or contracted to be invested and obligations incurred by any and all persons and investors for producing or for the purpose of producing or preparing for producing or acquiring property for producing, within the United States, to supply the urgent, published, and evident needs of the nation during the war, any ores, metals, minerals, or mineral substances mentioned and enumerated in an act of Congress, approved October 5, 1918 (public, numbered 220), entitled, "An Act to provide further for the national security and defense by encouraging the production, conserving the supply, and controlling the distribution of those ores, metals, and minerals which have formerly been largely imported, or of which there is or may be an inadequate supply;" and that said Secretary ascertain, determine, adjust, liquidate, and out of the moneys provided and appropriated by said Act pay to the parties entitled thereto the amount of such losses and damages as he, the said Secretary, shall find and determine have been sustained and suffered or are likely to be sustained and suffered, by reason of having made such investments for said purposes or having produced surplus stocks of such materials; and that in each case he shall make such determination, provision, settlement, advancement, or final payment, and by agreement with

owners and claimants make such other adjustment or take such other action as he shall find and determine to be just, equitable, reasonable, and expedient; and that he make such provisions as he may deem necessary, advisable, and reasonable to prevent further losses pending final decision, settlement, and disposition in any case or cases; that the payments herein authorized be made to the claimant or claimants the said Secretary shall find to be morally, equitably, and justly entitled thereto; that in ascertaining and determining the losses and damages sustained or to be sustained, and the adjustments, settlements, payments, and provisions to be made, the said secretary shall consider the prices and conditions existing at the time of each investment and the prices and conditions existing prior to the war, as well as those existing at the time of such determination, adjustment, and settlement, together with all of the circumstances and conditions of each case; that the final determination, decision, provision, disposition, and action of said Secretary in each case shall be conclusive and final; that all payments shall be made and all expenses incurred by the Secretary paid from the funds and appropriations provided and appropriated by said Act of October fifth, one thousand nine hundred and eighteen, (public, numbered 220), and that said funds and appropriations shall continue to be available for said purposes until such time as the said Secretary shall have fully exercised the authority hereby granted and performed and completed the duties hereby provided and imposed

SEC. 2. That a report of all operations under this Act, including receipts and disbursements, shall be made to Congress on or before the first Monday in December of each year.

SEC. 3. That nothing in this Act shall be construed to confer jurisdiction upon any court to entertain a suit against the United States.

RESOLUTIONS PASSED BY WAR MINERALS DIVISION

Among the resolutions adopted at the conference of the War Minerals Division of the American Mining Congress at Washington, December 16 and 17, were the following:

BUREAU OF MINES

Whereas, Under authority of Congress and by virtue of an urgent deficiency appropriation for war minerals investigations, approved March 28, 1918, the United States Bureau of Mines has been conducting investigations and research designed to promote development of domestic resources of the war minerals; and

Whereas, The said bureau has brought together a large mass of data and has under way investigations of large importance to this country; and

Whereas, This work is of even more im-

portance during the period of reconstruction than during the war; and

Whereas, Owing to the lack of funds, the investigations are about to be stopped while still incomplete; now, therefore, be it

Resolved, by this meeting: That Congress be urged to make at once an emergency appropriation of not less than \$150,000 to continue the studies under way and to keep up to date the information regarding development of the war minerals and the needs of the mineral industry as an element in provision for the national security and welfare.

WAR MINERALS BILL

Whereas, On October 5, 1918, H. R. 11259, was approved by the President of the United States; and

Whereas, On November 11, 1918, the day on which the armistice was signed, the administration of this act, with the exception of power of imposing of duties, was turned over to the secretary of the Department of the Interior by the President of the United States, thereby indicating his intent to have the provisions of the act carried out; and

Whereas, Up to the present time none of the provisions of the act have been carried into effect; and

Whereas, American producers of the minerals specified therein, who were induced to invest large sums of money for the purpose of producing such minerals under the implied protection of the act, have suffered serious losses, and will continue to do so, and in many cases will be financially ruined by reason of the nonenforcement of said act; now, therefore, be it

Resolved, by this convention of the War Minerals Division of the American Mining Congress, held in the City of Washington, D. C., December 16 and 17, 1918; That the Congress of the United States be, and it is hereby, requested to take such legislative action at the present session as it may deem proper to insure the carrying out of the purpose and spirit of the aforesaid act in order that justice may be done.

LEAD AND ZINC PRODUCTION SHOWS DECREASE DURING 1918

The domestic mine output of lead and zinc decreased in 1918, according to C. E. Siebenthal, in a statement just issued by the United States Geological Survey, Department of the Interior. The lead and the recoverable zinc of ores mined was approximately 563,000 tons and 627,000 tons, as compared with 651,156 tons and 711,192 tons in 1917. The refined lead output of smelters and refineries was 645,000 tons, against 612,214 tons in 1917, and the antimonial lead output was 22,000 tons, as against 18,647 tons. The lead available in the United States is 540,000 tons, against 515,258 tons in 1917. The output of spelter from

domestic and foreign ore was 525,600 tons, compared with 669,573 tons in 1917. Spelter from foreign ore decreased to 23,300 from 84,976 tons in 1917. The apparent domestic consumption of spelter was 440,000 tons, compared with 413,984 tons in 1917. The consumption figures of both lead and zinc include the metal shipped abroad for use of the American Expeditionary Forces. The average price of lead at New York was 7.6 cents a pound and of spelter at St. Louis 8 cents a pound.

Tells Coal Situation in France

An idea of the domestic coal situation in France is given by Capt. Joseph W. Breen, of the Gas and Flame Division of the American Expeditionary Forces, in a letter received by a member of the United States Fuel Administration. Captain Breen is a heating and ventilating engineer, and before entering the United States Army he was in business in Philadelphia. In the letter, he says:

"Coal here is \$60 per ton and the regulations are very strict. The heating season is cut to three months. Hotels are allowed to furnish hot water for domestic purposes, two days a week only.

"It will be some time after the war before this condition will change as the Germans ruined all the French mines. It will require years to get back to their normal output."

New Catalog

Catalog No. 244, just issued by the Jeffrey Mfg. Co. contains 40 pages devoted to details of Elevators selected out of numerous styles used in the handling of a wide range of materials in practically every industry of the country, and known as Jeffrey Standard Elevators.

A page is given to each Standard Elevator which is illustrated, both in perspective and in line drawing, giving dimensions. There is also an illustration showing the chain and bucket used in that type of elevator, and at the bottom of each sheet is given a full list of all specifications applying to that particular elevator.

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COPPER PRODUCTION INCREASED DURING YEAR JUST CLOSED

Montana Makes Big Gain Over 1917—Agri- zona Output Larger—Alaska Shows De- cided Decrease.

The production of copper in the United States in 1918 was slightly larger than in 1917, according to preliminary figures and estimates collected by B. S. Butler, of the United States Geographical Survey, Department of the Interior, from all plants that make blister copper from domestic ores or that produce refined copper. At an average price of about 24.75 cents a pound, the output for 1918 has a value of \$473,000,000, as against values of \$510,000,000 for 1917 and \$190,000,000 for 1913.

The figures showing the smelter produc-

tion from domestic ores represent the actual output of most of the companies for the first eleven months of the year and the estimated output for December. A few companies gave no figures for November, but furnished estimates of the combined output of November and December. The production of blister and Lake copper from domestic ores was 1,910,000,000 pounds in 1918, against 1,886,000,000 pounds in 1917 and 1,224,000,000 pounds in 1913.

The supply of refined copper (electrolytic, Lake, casting, and pig) from primary sources, domestic and foreign, for 1918 is estimated at 2,450,000,000 pounds, compared with 2,362,000,000 pounds for 1917 and 1,615,000,000 pounds for 1913.

According to the Bureau of Foreign and Domestic Commerce, the imports of copper in all forms for the first eleven months of 1918 amounted to 535,868,000 pounds, against 556,000,000 pounds for the twelve months of 1917.

The exports of pigs, ingots, bars, plates, sheets, rods, wire, and like copper products for the first eleven months of 1918, as determined by the same bureau, amounted to 692,759,000 pounds; the exports for the twelve months of 1917 were 1,126,082,000 pounds.

At the beginning of 1918 about 114,000,000 pounds of refined copper was in stock in the United States. Adding this quantity to the refinery output of the year shows that the total available supply of refined copper was about 2,564,000,000 pounds. Subtracting from this total the exports for the first eleven months and the estimated exports for the last month, shows, on the assumption that there was no change in stocks, that the supply available for domestic consumption in 1918 was considerably more than the 1,316,000,000 pounds available in 1917.

Arizona produced about 777,000,000 pounds, compared with 712,000,000 pounds in 1917.

The mines of Montana produced 328,000,000 pounds, against 274,000,000 pounds in 1917.

Michigan produced 225,000,000 pounds, compared with 268,000,000 pounds produced in 1917.

Utah produced 233,000,000 pounds, compared with 245,000,000 pounds in 1917.

Nevada produced 105,000,000 pounds, compared with 122,000,000 pounds produced in 1917.

Alaska, with a production of about 69,000,000 pounds, showed a large decrease from the previous year.

New Mexico produced 98,000,000 pounds, compared with 105,000,000 pounds in 1917.

The production of California was considerably above the 48,000,000 pounds produced in 1917.

The production in Tennessee was about 14,500,000 pounds.

METAL PRODUCTION FALLS OFF 14 PER CENT IN CALIFORNIA

The metal mines of California made an output of gold, silver, copper, lead, and zinc valued at \$32,223,500 in 1918, compared with \$37,685,985 in 1917, according to preliminary figures compiled by Charles G. Yale, of the San Francisco office of the United States Geological Survey, Department of the Interior. This is a decrease of \$5,462,500 or 14 per cent.

The mine output of gold for 1917 was \$20,087,504. The estimate for 1918 indicates a yield of \$17,242,400 in gold, a decrease of about \$2,845,000. The deficit is, perhaps, less than had been expected in view of the war conditions, which had the effect of closing down entirely certain large producers and curtailing operations in others.

There has been a great scarcity of skilled labor in the mines of the state, and the operators have been compelled to employ older men and younger men than customary, with a resultant decrease in efficiency. Moreover, labor, supplies, power, powder, steel and other materials became so expensive that numbers of small mines had to close down altogether, and the larger ones curtailed operation. Again, owing to railroad restrictions, it was difficult and sometimes impossible to obtain necessary machinery within any reasonable time. The conditions existing during 1918 have affected the deep mines much more unfavorably than placer mining. The low grade of the ore in the greater mines of the mother lode section of the state compels strict economy at all times, and with steadily rising costs in all directions it became impossible for some of them to continue operations except at a loss. As a result, several mother lode companies discontinued producing operations and contented themselves with keeping the mines clear of water until conditions might change. Other companies reduced working forces, hung up part of their stamps, and virtually ceased their normal production. Some smaller mines throughout the state followed the lead of the larger corporations, but a great many of these ceased operations entirely for the time being. The cost of producing an ounce of gold, compared with what they received for it, became too great for them to continue. The deep mines of California, to which these statements refer, produce about 60 per cent of the gold of the state annually. The remainder of the gold is recovered by various forms of placer mining, the most productive of which is dredging. The gold-dredging industry of the state continues to be generally prosperous, although no new extensive fields have been discovered. Nevertheless some smaller fields, notably in the northwestern part of the state, are receiving more attention than formerly, and some new and very large dredges have been installed in reasonably large areas. The dredging industry has not been so materially

affected by war conditions as the quartz-mining industry, but it has nevertheless been hampered to some extent by lack of supplies and especially by less efficient labor than formerly and a lessened supply of electric power. For a time during 1918 the power companies cut the power supply of the dredging companies down by 10 per cent, and later, for six weeks or more, then cut the supply down 33 per cent. This naturally compelled the larger dredging companies to close down some of their boats altogether and reduce work on others. Owing to these conditions one of the larger companies "scrapped" three of its oldest and least efficient dredges, thus reducing the number of operating dredges in the state. Notwithstanding these adverse circumstances the principal dredge men of the state are of the opinion that the dredge yield of gold for 1918 was not very materially less than in 1917. The loss of running time on each dredge is figured by the largest company in the state as only about 20 minutes a day; the second in rank of the companies figures a daily loss of one hour, due to inefficient labor.

No special change is shown in the drift or surface placer-mining fields of the state. However, there is a marked revival in the hydraulic mining industry after some 30 years of virtual idleness of former large producers. The result of this revival will hardly be apparent in the final figures of gold production in 1918, as most of the new work being done in the rehabilitation of the hydraulic mines is not yet finished. But at a dozen or more places in the older hydraulic mining regions of the state, in the drainage basins of Sacramento and San Joaquin rivers, heavy new concrete dams are being constructed under plans approved by the California Debris Commission. All this work is being done on old mines, that were formerly productive but were closed down 25 or 30 years ago, when the Federal Government ordered the impounding of debris in settling basins behind permanently constructed restraining dams.

Gold mining in California has for several years been following the natural trend in industrial affairs all over the world. The productive activity in the gold-mining industry is being gradually transferred from the smaller to the larger units. Those mines which continue to be worked consist of the richest, best, and most highly developed, while the poorer, least developed, and least profitable mines either cease to exist as active mines or are absorbed in more prosperous enterprises. The number of mines in the state producing gold was 585 fewer at the end of 1917 than at the end of 1912, which is a loss of 59.7 per cent. In the same period the number of productive quartz mines has fallen off 69 per cent; hydraulic mines, 49 per cent; dredges, 15 per cent; drift mines, 63 per cent; and surface placers, 55 per cent. The total gold output of 1917, however, shows a 2 per cent increase over that of 1912. There is not

space in this brief review to consider even the main facts explaining these conditions. It must suffice to say that the decrease in number of productive gold mines in California cannot be attributed to war conditions alone.

The silver output from California mines in 1918 is estimated at 1,533,000 ounces, valued at \$1,483,000, compared with 1,775,431 ounces in 1917, valued at \$1,462,955, a decrease of 242,417 ounces in quantity and an increase of about \$21,000 in value. The silver was derived mainly from the copper and lead ores, although an appreciable quantity is also mined with the gold. Owing to the rise in the value of the metal some few old silver mines in the southern part of the state have been reopened but none on any large scale.

The estimated mine yield of copper in California in 1918 is 48,538,000 pounds, valued at \$12,013,000, compared with 48,153,139 pounds, valued at \$13,145,807 in 1917, an increase of 384,958 pounds in quantity and a decrease of \$1,133,000 in value. Shasta county continues to be the most productive copper county, but large quantities are being produced in Plumas, Calaveras, Siskiyou, and Trinity counties, and smaller quantities in most of the other metal-producing counties of the state. Scarcity of skilled labor and war conditions generally prevented a much higher output of copper in California than the estimate exhibits.

The mine output of lead in California in 1917 was 21,868,626 pounds, valued at \$1,880,702; the estimated yield for 1918 is 14,655,800 pounds, valued at \$1,099,000. This is a decrease in quantity of 7,212,819 pounds and in value of \$782,000. The lead comes mainly from the southern counties of the state, but lack of sufficient labor and the high costs of mining caused a curtailment of operations during the year.

The estimated zinc output of the state in 1918 is 4,697,900 pounds, valued at \$385,200, compared with 10,872,716 pounds, valued at \$1,109,017, in 1917, which is a falling off in quantity of 6,174,825 pounds and in value of \$724,000. The direct reports from the few large properties producing zinc in Shasta and Inyo counties show that their outputs were very much restricted in 1918, their attention being directed to more profitable metals in their ores. The only large electrolytic plant in the state has been closed down.

NEW MEXICO PRODUCED

25,000,000 POUNDS OF ZINC IN 1918

The output of the mines of New Mexico for the first eleven months of 1918 and the estimated output for December, as reported by Charles W. Henderson, of the United States Geological Survey, Department of the Interior, amounted to \$681,000 in gold, 868,000 ounces of silver, 9,250,000 pounds of lead, 98,620,000 pounds of copper, and 25,000,000 pounds of recoverable zinc, valued in all at \$28,625,000, as compared with \$1,-

067,969 in gold, 1,453,454 ounces of silver, 9,501,000 pounds of lead, 105,568,000 pounds of copper, and 30,200,000 pounds of zinc, with a total value of \$34,986,765 in 1917. These preliminary figures thus show decreases of \$387,000 in gold, 585,000 ounces in silver, 251,000 pounds in lead, 7,000,000 pounds in copper, and 5,200,000 pounds in zinc.

The decreased output of gold and silver was general throughout the state. Mills of the Mogollon district, Socorro county, yielded \$115,948 in gold and 312,000 ounces of silver, compared with \$258,620 in gold and 722,644 ounces in silver in 1917. This district in 1916 yielded \$373,068 in gold and 1,008,483 ounces of silver. In 1918 the mill of the Mogollon Mines Company was operated steadily, but the new mill of the Socorro Mining and Milling Company, built to replace that destroyed by fire on October 26, 1917, was put in operation August and ran until October 18, when operations were suspended on account of the influenza epidemic; milling was resumed November 18. The output of gold from the Aztec mine at Baldy, Colfax county, was not so large as in 1917. The yield of gold-bearing siliceous copper ores of Lordsburg was less than in 1917, as was also the yield of the gold-bearing iron-copper ores of Orogrande. The San Pedro copper-matting plant, in Santa Fe county, was operated for only three months in 1918. The product of this plant carries both gold and silver. The gold production from Pinos Altos decreased, and there was only a small yield of gold from Whiteoaks, Lincoln county, but a small addition to the gold output was made by the new amalgamation mills at Parsons and Nogal, also in Lincoln county.

Copper, the principal metal product of New Mexico, is produced in several districts. The greater part of the output comes from the Chino Copper Company's low-grade copper deposits at Santa Rita. The ore is milled at Hurley, in a large, wet concentration-flotation plant. In 1917 this company's output was 79,501,333 pounds, compared with 83,339,782 pounds in 1918. The Burro Mountain Copper Company's operations at Tyrone were continuous. This company's concentration mill began operations at full capacity June 1, 1916. During the year a flotation plant was sent in operation at the Eighty-five mine. Shipments of copper ore from the Magdalena district, Socorro county, which had been large in 1916, were less in 1917. The Apache mine, at Hachita; the Orogrande district, in Otero county, and the Carocito district, near Scholle, also contributed some copper.

Lead ores were shipped from the central and Steeplerock districts, Grant county, and the Cooks' Peak and Victorio districts, Luna county. Considerable quantities of

lead carbonate and lead-zinc carbonate ores continued to be shipped from Kelly, Socorro county, and during a part of the year lead was shipped from the Organ mountains district, Dona Ana county. The lead smelter at Deming, destroyed by fire in October, 1917, was not rebuilt.

Decreased shipments of zinc carbonate and zinc sulphide ores were made in 1918. At Kelly, Socorro county, the principal producing mines were the Kelly, Graphic, and Juanita. The Ozark mill was operated steadily, but the Kelly mill was not in operation. At Hanover zinc carbonate ores were shipped from the Empire zinc mines and others, and zinc sulphide concentrates were shipped from the Hanover magnetic separation mill. The Cleveland magnetic separation mill, at Pinos Altos, was operated steadily, but at a reduced yield. In September, the Carlisle mill, in the Steeplerock district, Grant county, was again set in operation, and the lead concentrates were shipped, but the zinc concentrates were stored. Sulphide ores, in considerable quantities, were shipped from the Republic mine at Hanover, and several lots of zinc sulphide concentrates were shipped from the Rocky Mountain mill at Cerrillos. Zinc carbonate ores were shipped from the Magdalena, Hanover, and Cooks' Peak districts. The zinc ore and concentrates shipped from mines in 1918 amounted to 45,982 tons of 33 per cent grade, compared with 61,522 tons of 31 per cent in 1917. The Grubnau zinc-oxide plant, built in 1917 at Waldo, Santa Fe county, was operated continuously on zinc ores from Arizona, New Mexico, and Colorado.

FUEL ADMINISTRATION WORK IS TRANSFERRED TO OTHERS

After conferring with Van H. Manning, Director of the United States Bureau of Mines, and Dr. George Otis Smith, Director of the United States Geological Survey, United States Fuel Administrator Harry A. Garfield announced that the assimilation of some departments of the Fuel Administration would be begun soon by the first two named government departments.

The Statistical Bureau of the Fuel Administration is to be taken over by the Geological Survey.

The work of the Conservation Bureau is to be taken over by the Bureau of Mines, which will continue the work of maintaining the quality of coal and improving processes of mining, which have been developed by the Fuel Administration.

The Bureau of Mines also will take over the engineering program of the Fuel Administration looking to the development of electrical power at, or close to, coal mines.

PETROLEUM PRODUCTION REACHES NEW LEVEL

**Output During 1918 Amounted to 345,500,000
Barrels, An Increase Over Record Figures
of 1917.**

Preliminary estimates by the United States Geological Survey, Department of the Interior, indicate that the quantity of petroleum marketed from oil wells and field storage tanks in the United States in 1918 amounted to 345,500,000 barrels, an apparent gain of 3 per cent over the former record output of 335,315,601 barrels, established in 1917. The output in 1918 includes no less than 6,500,000 barrels of crude oil removed from field storage during the year. The surface reserve of crude oil, held by oil producers and pipe-line companies in the United States at the end of 1918, is estimated at 123,000,000 barrels, compared with 150,000,000 barrels at the end of 1917. The Geological Survey's detailed statement of petroleum production will be made public in a few days.

COAL OUTPUT SHOWS DECREASE FOR WEEK ENDED DECEMBER 21

There was a decrease in the production of both bituminous and anthracite coal during the week ended December 21, according to the figures made public by the United States Fuel Administration. The estimate for the week places the production of bituminous at 10,136,000 net tons, and of anthracite at 1,839,000 net tons, compared with 10,616,000 of bituminous and 1,924,000 anthracite the previous week. During the corresponding week of last year the production was 10,923,000 net tons of bituminous and 1,778,000 net tons of anthracite.

The decrease in bituminous production during the week ended December 21 was largely in the Ohio, Pennsylvania, and West Virginia districts. In Illinois, Indiana and the fields south and west, slight gains were reported.

From April 1 to December 21, the total bituminous production is estimated at 441,361,000 net tons, compared with 402,824,000 net tons during the same period of 1917. For the same period the production of anthracite has been 72,541,000 net tons this year, as against 73,954,000 last year, according to the estimate. The anthracite record for the calendar years 1918 and 1917, however, will not show so great a difference.

During the week ended December 14, the total loss by all causes from 100 per cent production was 27 per cent, of which "no market" comprised 11.3 per cent, labor shortage 7.4 per cent, car shortage 4.3 per cent, mine disability 2.9 per cent, and all other causes 1.1 per cent.

JENNINGS COMMITTEE SOUNDS GOLD PRODUCTION WARNING

That the decline in the production of gold in the United States is of serious national concern is indicated by a report of a special committee of gold experts made to Secretary of the Interior Lane recently.

Several months ago the Secretary's attention was called to the rapidly increasing cost of gold production and the consequent decline of output, and realizing the importance of the gold mining industry, he appointed a special committee, headed by Hennen Jennings, the well-known gold mining engineer and consulting engineer of the Bureau of Mines, to go thoroughly into the situation and make the necessary recommendations.

The report, of interest not only to the gold mining industry but also to financial and business men, as having an important bearing on finance and credits and the consequent prosperity of the country, declares that "gold mining has been seriously injured by the war, and has been discriminated against for the protection and benefit of the Treasury, in that the export of gold and even the internal free trade in the metal was interrupted."

The committee says that prices on all commodities have advanced in terms of the government's paper money, except that of the ounce of gold, which has a fixed price of \$20.67. "Thus, in reality," says the committee, "the purchasing power of gold has decreased in proportion to the increase of other commodities which in one way or another are factors in the obtaining of new gold."

"The present decrease in gold production is serious," says the committee, "as the maintenance of a sufficient gold reserve is essential to the security of our national finances and credits. The United States is the most favored nation in regard to gold reserves, holding over \$3,000,000,000, or nearly one-third of that of the world, but it has contracted debts on a gold basis many times that existing before the war."

The committee gives as the principal reason for the decline in gold production the increase in operating costs in the most favored quartz mines from 57 cents to produce a dollar's worth of gold in 1917 to 70 cents in 1918.

Various means of stimulating the production of gold at this time were considered by the committee. Payment of a bonus on newly mined gold, advocated by many, is frowned upon by the committee. The elimination of the excess-profits tax on gold mining and the encouragement of larger outputs thereby is advocated, and the statement is made that larger dividends paid to shareholders will mean greater revenue for

general taxation than could be obtained through any excess-profits tax.

The privilege of free export and of sale to manufacturers would stimulate production and aid gold mining, says the committee, and might also be a safeguard against inflation. The Government might increase production by assisting in improving methods of mining and metallurgy of gold ores. Possible methods of maintaining the visible gold reserve would be in the curtailment of the use of gold for manufactures and making a call on the public to turn in hoarded gold. In France voluntary contributions by the people since the war began have amounted to more than 2,000,000,000 francs. Further relief might be obtained, the committee says, by amending the War Minerals bill to include gold and voting an appropriation to be used in directing the search for new deposits.

The committee declares that the future of gold mining in the world is problematical; that the gold output of the world seems to have passed its zenith and to be on the decline.

"Virtually all economists agree that the gold standard should be maintained," says the committee. "Even those who have profound ideas as to the advisability of a different standard concur that it would be dangerous to attempt any drastic changes during the war and the readjustment period. The gold standard is of vital necessity in the regulation of foreign exchange, and shipments of gold to neutral countries should be encouraged to stabilize the value of our dollar, to insure confidence, and to promote business relations."

A number of recommendations on the assumption that the country would still be at war were made which have no application now. The members of the committee, other than Mr. Jennings, the chairman, are J. H. Mackenzie and Charles Janin, of the Bureau of Mines, and H. D. Caskey and F. L. Ransome, of the Geological Survey.

Anthracite Production Increasing

The greatest production of anthracite coal since the week ended October 12 was shown in the report on that fuel for the week ended December 14, as announced by the United States Fuel Administration.

In the week ended December 14, the production was 1,923,625 net tons, an increase of 116,850 net tons, or 6.5 per cent over the production for the week ended December 7, when the net tonnage was only 1,806,775. The week covered in the latest figures also shows an increase of 145,270 net tons over the corresponding week in 1917, when the production was 1,778,355 net tons.

Of the total, 1,197,079 net tons were prepared sizes, the greatest production of anthracite coal of that character since the week ended October 5.

NEVADA MINES PRODUCE**\$9,000,000 LESS DURING 1918**

The value of the gold, silver, copper, lead, and zinc mined in Nevada in 1918 was over \$45,000,000, according to the preliminary figures compiled by Victor C. Heikes, of the United States Geological Survey, Department of the Interior. This is a decrease of over \$9,000,000 from the output of 1917, when the mines produced \$54,424,580. The decrease was general, and in point of value the largest decrease was that in copper, which amounted to more than \$7,000,000.

The gold output of Nevada decreased from \$6,959,468 in 1917 to about \$6,700,000 in 1918. This is a comparatively small decrease when the isolation of the camps and the excessive costs are considered. Although the Goldfield Consolidated has held the record of being the largest gold producer in Nevada for several years, the gold output declined about 40 per cent. Gold from the Tonopah district was also decidedly decreased and amounted to about \$1,200,000. Gold producers of the state which had an output of more than \$200,000 each were the Nevada Consolidated from copper ore; the Aurora Consolidated; the White Caps, at Manhattan; the Elko Prince; the Olympic Mines, in Mineral County; the Union Consolidated, at Virginia City; and the Rochester Mines, at Rochester. Other notable gold producers were the Round Mountain property, Nevada Wonder, Dahl Placer, Consolidated Virginia, Comstock Leasing Company, and Consolidated Copper mines. There was a decided decrease in gold from the Seven Troughs district and from Churchill County. As a result of the developments at depth on the Comstock lode, that district produced more than \$400,000 in gold.

The mine production of silver decreased from 12,269,969 ounces to about 10,000,000 ounces in 1918. The value of the output, however, increased from \$9,286,454 to about \$9,678,000. The largest output of silver, or about 5,300,000 ounces, was produced in the Tonopah district, where the principal contributors were the Tonopah Extension, Tonopah Extension, Tonopah Mining, Tonopah Belmont, and West End. Large quantities of silver also came from the Nevada Wonder, in Churchill County; and the Rochester Mines, in Humboldt County. Smaller outputs came from the Yellow Pine, Nevada Packard, Prince Consolidated, Elko Prince, and several properties at Virginia City. The Comstock district produced about 270,000 ounces, and several properties at Rochester produced about 870,000 ounces.

The mine output of copper decreased from 122,794,704 pounds in 1917 to about

105,000,000 pounds in 1918. The value of the output decreased from \$33,522,954 to about \$26,000,000. The Nevada Consolidated, at Ely, in White Pine County, the largest producer, contributed more than 6,000,000 pounds of copper a month, and the Consolidated Coppermines, in the same county, was producing more than 1,000,000 pounds a month. At Thompson, in Lyon County, the Mason Valley smelter was operated throughout the year at the rate of about 1,300,000 pounds a month. In this region the Bluestone mine was a large producer, and the Nevada Douglas made considerable shipments. At Luning, in Mineral County, the Wall Street shipped a large tonnage of copper ore, and in Lander County the Copper Canyon made notable production.

The mine output of lead decreased from 27,677,928 pounds in 1917 to about 20,600,000 pounds in 1918. The value of the output decreased from \$2,380,302 to about \$1,567,000. One of the largest lead producers in the state was the Prince Consolidated, at Pioche, which shipped iron-manganese ore containing gold, silver, and lead. From the Yellow Pine district of Clark County considerable high-grade lead ore was shipped, some lead product was separated from a lead-zinc ore, and considerable lead-zinc ore was shipped to the zinc smelters or oxide plants. Considerable lead was produced by the Combined Metals at Pioche; the Groom mine, in Lincoln County; and several properties at Eureka.

The mine output of recoverable zinc decreased from 22,307,868 pounds in 1917 to about 15,000,000 pounds in 1918. The value of the output decreased from \$2,275,402 to about \$1,267,000. Nearly all of the output came from the Yellowpine district, of Clarke County, though there was a distinct decrease from this region. The Consolidated Coppermines, in White Pine County, made large shipments of zinc ore, as did the Combined Metals Co., at Pioche.

Dividends declared by Nevada mining companies for the first eleven months of 1918 amounted to \$7,374,458. The principal contributors were the Tonopah Belmont, Tonopah Mining, Nevada Consolidated, West End, Boss, Jim Butler, Union Consolidated, Yellow Pine, Nevada Wonder, Rochester Mines, Tonopah Extension and Nevada Packard.

Arsenic Off Export List

The War Trade Board has announced the removal of the following commodities from the Export Conservation List, effective January 6, 1919: Arsenic and compounds thereof; Arsenate of lead; Arsenate of soda; Arsenite of soda; Lead, arsenate of; Sodium compounds, as follows: Arsenate; Arsenite.

MANNING ADDRESSES CHAMBER OF COMMERCE OF UNITED STATES

"With the gradual disbanding of the present war organizations and in transforming from war to peace status, laws may be necessary. Heretofore Congress has called upon the Bureau of Mines for advice in framing certain laws, and you gentlemen can readily see that in order for us to properly advise Congress it will be necessary that we are alive to the exact situation," said Van H. Manning in the course of his address to the Chamber of Commerce of the United States. "Therefore, it is to the benefit of the industry that the Bureau of Mines be closely in touch with your problems and ideas; that we know your needs, and that we realize your aims. In order to meet this end, I hope that the oil industry, as a unit, will assist us in properly functioning by promoting a cooperative relationship between yourselves and the Government, which will remove many of the difficulties which in times past have involved you.

"The work of the Oil Administration, under Mr. Requa's direction and his able assistants, augmented by the Petroleum War Service Committee, is coming to an end, and I speak with some authority when I say that the work has been well done.

"Backed up and guided by such men as Mr. Requa and his able staff, not only did the industry but also the entire citizenry of the country respond in splendid and unprecedented manner to the necessary and patriotic calls. Looking back over this period of international crises and trying to visualize what was accomplished—and it is a most difficult task, so herculean is it in its proportions—I can only say, with a great sense of satisfaction and relief, that I am proud of the American oil industry and proud of the American citizen in his wonderful demonstration of patriotic cooperation. Whenever our Navy needed fuel oil or gasoline, it was there; whenever our aircraft needed gasoline, it was there, even if our citizens did have to go without Sunday automobiles; whenever the great fleet of our Allies needed petroleum, it was there. How great a factor, relatively, was the American oil industry in winning the war may never be definitely settled, but we know that it was of sufficient import to cause a famous British admiral at a recent jollification banquet to exclaim fervently, 'We floated to victory on oil!'"

The Ironton Engine Company have discontinued their branch office at Pineville, Ky., and have opened an office at 1501-1502 Fayette National Bank Bldg., Lexington, Ky., in charge of W. H. Patton, who was formerly located at Pineville.

CAUSES CONTRIBUTING TO OVERPRODUCTION OF CHROME

Some of the thoughts on the chrome situation picked up in Government circles are as follows:

Over-supply of chrome ores is due partly to the sudden termination of the war and the consequent decrease in requirements, and probably would have occurred to a lesser extent if the war had continued. This over-supply was brought about by

(a) A large over-estimate of their requirements by the consumers.

(b) By a production far in excess of the possibilities estimated by the producers.

(c) By the imperfect carrying out of the import restrictions from foreign sources.

The increased domestic production has been greatly stimulated by the requests of various government agencies urging the domestic producer to increase his output. Therefore, the Government has a moral responsibility in having urged increased production and having failed to enforce import restriction. The producer has a responsibility in having underestimated his possible output, and having proceeded with production without any Government contracts or definite assurances of purchase, possibly relying on action which might be taken under the Mineral Administration Bill which has been pending for the last year. The consumer is responsible to the extent of over-estimating his requirements, of offering high prices on short term contracts to the producer, and in using undue efforts to secure imports.

It is evident that while the Government has a certain amount of moral responsibility that it is by no means responsible for the whole situation.

It is estimated that the amount of un-amortized capital invested by the producers is from \$800,000 to \$1,000,000.

Among the plans suggested for relief are the following:

(a) The payment to the producer of a lump sum to represent the amortization of his capital, but no profit on the operation.

(b) The purchase by the Government of a minimum tonnage of ore of contracts by the Mineral Bill for a limited period of time not to exceed one year.

The first plan would be the simplest and least expensive to the country. The second plan will require control of the whole production and import situation for at least two years with many difficult problems of administration. It will probably represent as much loss to the Government in view of the fact that unless a tariff is established for several years that any ore purchased by the Government would have to be resold at a loss.

SOUTH DAKOTA'S GOLD**YIELD WORTH \$6,853,000**

The mines in South Dakota produced in 1918 gold worth \$6,853,000, compared with \$7,364,233 in 1917, and 164,000 ounces of silver, compared with 186,765 ounces in 1917. In addition, 67,000 pounds of lead and 90,000 pounds of copper were produced from smelting ores shipped. These are preliminary estimates, reported by Charles W. Henderson, of the United States Geological Survey, Department of the Interior.

The yield from the Homestake amalgamation-cyanidation mills fell off approximately \$400,000. For several years the Homestake mine has been furnishing ore to its stamp mills, numbering 1,020 stamps in all without interruption, but in October, 1918, this company was forced to shut down 100 or more stamps. Of the other important properties, the Golden Reward mines and cyanidation mill were closed in the spring of 1918, owing to advances in cost and low-grade ores. The Wasp No. 2 mill was dismantled; the New Reliance was idle; the Bismarck mill was operated for a short period only; the Mogul mine continued operation on custom ore. The Trojan mill and mines were active. Small shipments of lead-silver ore were made from Galena, and of copper ore from Roubaix and Hill City.

Placer mines in Custer, Lawrence, and Pennington counties were not actively worked.

MINING STATUTES OF VARIOUS STATES TO BE DISCUSSED

The Bureau of Mines, Department of the Interior, has just issued the first of a series of bulletins containing the mining statutes of different states. The first of these, now ready for distribution, is Bulletin 161, "California Mining Statutes Annotated," by J. W. Thompson.

The purpose of this bulletin and others of like nature which are to follow is to point out the laws and regulations best adapted to increase safety and efficiency in the mineral industry of the United States and to aid legislative bodies in framing uniform mining laws.

The purpose of the bureau is to follow this bulletin with others that will contain complete collections of the mining statutes of the several states with annotations consisting of abstracts of the decisions of the state courts construing such state statutes. These state bulletins will be published successively, either as individual state bulletins or by grouping of states, with a view to uniformity in size.

The plan adopted will result in giving preference to some states, but as a major

part of all of the preparation of the work has been performed, the successive volumes will follow without great delay.

The publication of the bulletins in an alphabetical order of the states has not been adopted, as this would not permit desirable grouping of two or more states. The State of California, by reason of its historic interest in mining and by reason of its great extent of mineral land and its vast mineral deposits, has been selected for the first bulletin of the state series.

This bulletin is sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., for 20 cents.

SUGGESTS INCREASE OF DOMESTIC ANTHRACITE TO RELIEVE MARKET

Of deep human and commercial interest to members of Congress and the public were many facts brought out in the testimony of William Griffith of Scranton, before the Senate Committee on Manufactures recently.

Mr. Griffith is one of the most experienced engineers in the anthracite fields and has been a close student of both scientific and economic conditions relating to fuel and its development.

The Senate investigation was for the purpose of fixing, if possible, upon some plan or suggestion looking to corrections in the handling and distribution of anthracite, and to—if possible—encourage greater production as a means of reducing costs to consumer. Mr. Griffith, in his answers to direct questions showed that up to a few years ago the smaller sizes—such as pea coal and rice coal were not salable, and were practically wasted. Salesmen who tried to introduce the smaller sizes were looked upon as imposters. During those years, such coal was dumped upon waste piles, known as "Culm Banks."

It was while acting upon a State Commission to investigate the methods of handling anthracite that Mr. Griffith became interested in working out a method of conserving the coal supply. The report of his Commission brought to the attention of the coal companies the fact that the so-called waste was valuable. Since then the companies have been placing smaller sizes in the market.

There still remain great banks of culm which can be washed and placed in the market—though no secondary or low-priced sizes are allowed in the price schedule. Anthracite is the only commodity upon which the Government fixes but one standard and price—and it was this fact that prevented the sale and distribution of low standard, low-priced coal during the war famine. Mr. Griffith favored the introduction of a secondary grade, at a reduced price, in order to increase the

production efficiency of the mines at this time.

In discussing the successful operations of one company for which he secured a lease on one "waste" dump, Mr. Griffith stated that the lease was based upon a 40 cent royalty. The plant for cleaning the refuse cost \$70,000 and would operate five years. The cost of production for the month of March was \$8,031—including \$1,200 monthly depreciation—the production reaching 5,826 tons for the month.

Mr. Griffith stated that he accepted as reasonable the Fuel Administration figures showing that the average cost of producing a ton of anthracite of any size, from mine or "culm dump" is \$4.50. This sells at \$5.00 per ton for steam fuel and \$6.00 per ton for domestic use. The domestic fuel is sold at a profit while steam fuel made no profit for producers at the present price.

The prices are fixed by the group of companies controlling anthracite but are regulated by competition such as bituminous coal and its by-products, coke and gas, and water power.

New operations are impossible because the anthracite fields have reached the maximum, according to Mr. Griffith—at least two big companies have exhausted

their development possibilities. Production has reached its peak.

"As a conclusion from these facts it is my opinion that any scheme that will increase the supply of domestic coal should be acceptable to all interests in the first place and, in addition, a marketing of a low-grade or a second class domestic coal at correspondingly low prices will lead to the conservation of thousands of tons of domestic coal from culm piles, from waste piles and from condemned coal in the breakers," said the engineer.

Mr. Griffith showed that the peak in anthracite production was reached in 1910, and since then production has fallen each year. He expressed the belief that the limit of production had been reached. Some of the collieries have been kept going—high or low prices—because to cease would mean ruination from flooded works, while—often to produce entailed losses and in spite of the undisputed fact that they were depleting their stock—exhausting their capital without adequate returns.

In 1916 there were 800 collieries in the anthracite field, producing an average of 99,000 tons each.

Mr. Griffith submitted a unique but most comprehensive chart—summing up the anthracite situation—and which is reproduced herewith by his permission.

Anthracite coal, November 29, 1918. According to statistics of the Fuel Administration cost \$4.50 per ton, average sale price \$5 per ton.

1—Output composed of domestic fuel, in prepared sizes for household use in stoves; average cost about \$4.50, sale price \$6 or more. Profitable, quantity 50 per cent of the total output or less.

1—Competitors of domestic fuel, regulate the prices and are bituminous coal, and its by-products, coke and gas, electrically produced by bituminous coal, anthracite steam sizes and water power, third natural gas, anthracite briquettes.

2—Output composed of steam fuel; small sizes, not suitable for domestic use in stoves, cost \$4.50 per ton, sale price \$3 per ton or less; useful under force draft only. Unprofitable, quantity 50 per cent more or less of the total output.

2—Competitors of the steam fuel are low-grade bituminous coal and water power.

1—Domestic sizes; increase in production impossible; region has reached its maximum; new operations cannot more than replace the exhaustion of the old ones; prices regulated by fierce competition of many competitors

1—Decrease in proportion of domestic sizes means a net loss to the coal trade and a loss in comfort to the people.

2—Increase of small sizes is easy, but at great reduction in market price; substitutes are low-priced and plentiful; increase of small sizes means decrease in proportion of domestic sizes; because cars used for transporting small sizes reduce the car supply for domestic sizes

2—Increase in proportion of small sizes means a net loss to the coal trade and no great advantage in the homes of the people. It is not useful in the stoves.

The adoption of the suggestions made would be useful to:

People in their homes, who need more domestic sizes but do not require more steam sizes;

Industry, which requires more

steam sizes but can use substitutes;

The coal trade, which needs more domestic sizes but does not need more steam sizes.

OREGON INCREASES ITS COPPER OUTPUT IN 1918

A preliminary estimate of the production of metals in Oregon in 1918, compiled by Charles G. Yale, of the San Francisco office of the United States Geological Survey, Department of the Interior, shows a decrease only in the yield of gold, with an increase in that of silver, copper and lead. The output of gold in 1917 was, according to the mines report, \$1,491,798, and the estimated output in 1918 is \$1,270,300, a decrease of about \$221,500 for the year. The silver output in 1917 was 125,656 fine ounces, valued at \$103,541, while in 1918 it was 148,200 fine ounces, valued at \$143,500, which shows an increase in quantity of about 22,500 fine ounces, and in value of about \$40,000. The yield of copper in 1917 was 2,474,487 pounds, valued at \$675,535, and in 1918 it was 2,935,000 pounds, valued at \$726,400, which is an increase in quantity of 460,500 pounds and in value of \$50,800. There was no output of lead in 1917, but in 1918 the mines reported a production of 4,364 pounds, valued at \$300.

In common with the other gold-producing states of the Union, Oregon showed a falling off in gold yield in 1918 as compared with 1917. This was due, however, not so much to war conditions that affected the deep mines as to the decrease in output from the gold-dredging industry, by far the most important single factor in the gold yield of the state. Direct returns received from the dredging companies of the state show a decline in gold yield of \$236,900 in 1918, compared with the total figures from this source in 1917. As the total gold decrease in Oregon for the year was \$221,500, it is seen that the deep mines of the state more than held their own, notwithstanding the unfavorable conditions due to the war. Moreover, most of this decline was due to the permanent closing down in 1918 of one of the large dredges, its ground having been worked out. There are now three dredges operating in Oregon.

The larger copper companies, in Baker and Josephine counties, did much better in 1918 than in 1917, both in quantity and value of output. This accounts also, in part, for the increase in silver yield, more than one-third of the Oregon silver being derived from copper ores. The rest of the increase of silver comes from siliceous ore, very little being taken from the placer gold.

Most of the placer mines of the state are worked by the hydraulic system, but the yield of gold in all forms of placer mines combined does not nearly reach that of the dredges. There are only a little over 100 producing mines in Oregon, including all classes, and the hydraulic mines are the most numerous. Of the deep mines about twenty-five produce gold from silice-

ous ore, and there are seven active copper properties. The entire output of ore from all the deep mines combined is between 140,000 and 150,000 tons annually.

The largest proportion of gold and other metals in 1918 came, as usual, from Baker county, which produces annually about 90 per cent of the gold mined in the state. Grant county comes next in rank in gold production, having exceeded Josephine county by reason of its dredging industry.

LIGNITE BILL IS REPORTED FAVORABLY TO THE HOUSE

A bill providing for the determination of the practicability of utilizing lignite coal and appropriating \$100,000 for that purpose has been reported favorably by the Committee on Mines and Mining of the House of Representatives. A valuable statement as to the possibilities of lignite was printed as a part of the committee's report. The number of the report is 840, and can be obtained on application to the House document room. An extract from the extensive statement is as follows:

"When classified according to rank, the coals of the nation fall into three groups:

"1. Anthracite, semi-anthracite, semi-bituminous, and bituminous coals.

"2. Subbituminous coals.

"3. Lignite.

"This classification as to rank rests, in a measure, upon the percentage of volatile matter, oxygen, and moisture contained in the coals. There is, speaking generally, a progressive loss of these elements in passing from lignite to anthracite. But chemical criteria alone are not a sufficient basis for such classification. The dividing line is really determined by physical characteristics which directly affect the market value of the coal.

"While subbituminous coals generally have more moisture than bituminous coals, there are so many exceptions to the rule that it has very little value as a means of distinction. But there is a very marked difference in their behavior upon weathering. The subbituminous coals, on exposure, give up their moisture more readily, resulting in shrinkage, irregular cracking, and a measure of disintegration; whereas, the bituminous coals shrink very little and there is practically no disintegration due to drying.

"Again, the distinction between subbituminous coal and lignite is not clearly defined chemically, but the physical difference is marked. The subbituminous coal is black and shiny, has little trace of woody structure, carries less moisture, and has a greater heating value than lignite, and is capable of producing a coke of fairly good quality. Lignite, on the other hand, is

brown, dull, markedly woody in texture, has no coking quality whatever, carries a greater percentage of moisture (30 to 40 per cent), which it parts with very readily, and hence the disintegration on exposure is so great as to largely prevent its shipment during the summer months.

"The nation's coal resources of all ranks total 3,553,637,100,000 minable tons. Of this total 1,051,290,000,000 tons, or nearly one-third, is lignite. Of this lignite 964,424,000,000 tons are located in North and South Dakota and northeastern Montana; in Texas, approximately 23,000,000,000 tons; in Alaska, 7,404,300,000 tons; and relatively smaller quantities in several of the other Western and Southern States. (Geological Survey Professional Paper 100.)

"The lignite tonnage given above includes only Group 3; it does not include Group 2, subbituminous coals, which in earlier days were called 'black lignites' and classed in the lowest rank among coals.

"It is an important economic consideration that these lignites are found in sections of the country which have no other solid fuel.

"A large number of samples of North Dakota and Saskatchewan lignite averaged:

	Per cent.
Moisture.....	26.13
Volatile hydrocarbons.....	28.11
Fixed carbon.....	38.16
Ash.....	6.86
Sulphur.....	.74

"The large percentage of moisture contained in the lignite has not been absorbed from extraneous sources, but is the portion remaining from the great amount of water present in the peat from which the lignite was derived. This water is poor stuff to pay freight on or to put into a furnace. The lignite fires very quickly from spontaneous combustion, making storage of it in any large quantities exceedingly difficult. It does not 'coke' in the sense that bituminous coal cokes, but rather crumbles when being carbonized or when thrown onto the fire, and this gives rise to difficulties in firing and substantial loss through the grate bars.

"For these reasons the lignite is not a very desirable fuel as mined, and millions of tons of bituminous and anthracite coals are shipped annually into these lignite-bearing sections—literally 'carrying coals to Newcastle'—resulting in high prices for both industrial and domestic fuel, necessarily imposing a great handicap upon the industrial development of these sections, the tying up of transportation equipment much needed for other service, and in other substantial economic lost motion.

"The economic problem is not a local but a national one.

"In Texas there is some bituminous coal, but not enough to supply the railroads.

"In Alaska \$50,000,000 are being spent on a railroad there, and it seems probable that the development of a large part of the territory served by this railroad will depend upon the utilization of lignite.

"In North Dakota in 1917 there were mined 603,000 tons of lignite and imported 717,000 tons of bituminous coal from Lake docks, Indiana and Illinois.

"In South Dakota in 1917 there was mined 12,000 tons of lignite and imported 792,000 tons of bituminous coal from the Lake docks, Kentucky, West Virginia, Iowa, Indiana, and Illinois.

"Minnesota, having no coal of her own, in 1917 imported 7,203,000 tons of bituminous coal from the Lake docks, Kentucky, West Virginia, Ohio, Tennessee, Iowa, Arkansas, Indiana, and Illinois.

"The economic waste involved in this almost transcontinental shipment of coal is little short of criminal."

Import Restrictions Modified

The War Trade Board announces that the regulations governing the importation of copper ore and copper concentrates announced in W. T. B. R. 249, October 4, 1918, have been modified, and that henceforth they will consider applications for license to import copper ore and copper concentrates as follows:

1. For copper ore originating in and coming from Korea, Newfoundland, the West Indies, France, England, the West Coast of South America, Cuba, Canada, and Mexico, irrespective of the content of copper.

2. For copper ore originating in and coming from Spain only when containing more than 2 per cent of copper.

3. For copper concentrates from Cuba, Canada, and Mexico, irrespective of the content of copper.

4. For copper concentrates from any non-enemy country other than Cuba, Canada and Mexico, only when containing 50 per cent or over of copper.

There is no restriction upon the importation of copper matte or blister copper.

Requisitions Cancelled

All of its requisitions for the shipment of bituminous coal to industrial plants have been cancelled, according to an announcement by the United States Fuel Administration.

The policy of the Fuel Administration hereafter will be to leave to the plants themselves the work of obtaining such fuel. It believes, however, that none will have any difficulty in obtaining sufficient supplies.

POTASH PROBLEM PUT UP TO INTERIOR DEPARTMENT

At the direction of the President, the Chemicals Division of the War Industries Board has turned over the Department of the Interior the problem of increasing the potash production of the United States. This action was taken in order that an established branch of the Government may permanently set itself to the task of emancipating the American farmer from the grip of Germany's monopoly on the world's supply of fertilizer material.

Before the signing of the armistice the War Industries Board had already attacked the problem. Chairman Baruch himself had appeared before a Congressional Committee in behalf of an amendment to the revenue bill which would give encouragement to private industries who would undertake the risk of establishing potash production in this country. The Chemicals Division, on the other hand, in cooperation with other departments of the Government, had turned its attention to the specific task of extracting potash from waste products. A committee of experts, representing the steel and iron industry of the country and certain scientific departments of the Government, was in process of formation, under the auspices of the Chemicals Division, at the time hostilities ceased. Its purpose was to determine as quickly as possible the feasibility, from a commercial standpoint, of extracting potash from the fumes of blast furnaces.

Prior to the outbreak of the war, Germany, by reason of her monopoly of the potash supply, had gradually extended her arm around the food crops of the world. It was to Germany that the farmers of this and other countries had to look for the principal ingredient of their fertilizers. Nowhere else were to be found the vast potash deposits, contained in rock salt, which insured to the German potash exporters a natural supply sufficient to meet the demands of the world for several thousands of years to come.

When the outbreak of the European war suddenly cut off this supply, the situation of the American farmer was for a time desperate. Under the stimulus of necessity, efforts were launched by private industries to meet the situation, and in consequence there has been a considerable development in the amount of potash produced in this country. By no means, however, has this development approached the requirements of the country. Before the war the American imports of pure potash from Germany for the year ending July, 1914, amounted approximately to 250,000 tons. Last year there were produced in the United States 32,000 tons, and this year it is estimated

that the output will amount to about 60,000 tons.

The War Industries Board undertook to approach the problem in a larger way, and it is now proposed by arrangement between the Chemicals Division and the Department of the Interior for the program to be carried forward by the latter department.

The suggestion of extracting potash from blast furnace fumes is based on the fact that potash in varying quantities is found not only in the iron ores but in the coke and lime used in reducing the ores. In Alabama the ores are particularly rich in potash. At present this potash is allowed to escape during the processes of the blast furnaces. Divided into microscopic particles of dust it is volatilized and carried off with the waste fumes.

Several methods of saving this potash have been suggested by scientists. Of these the most feasible appears to be the electric-precipitation process devised by Dr. Fred D. Cottrell, of the Bureau of Mines. This involves cooling the gases as they emerge from the blast furnaces and passing them through a series of sheet steel tubes, eight to twelve inches in diameter. Through the center of these tubes is run a wire, or chain, carrying a high voltage charge of static electricity. This electric charge tends to electrify the fine particles of potash dust, causing them to consolidate, or "colonize" and drop down the sides of the tubes. A fair-sized installation for this process requires as many as 400 of these tubes through which to pass the gases. It is this process which the Bethlehem Steel Company has experimented with on a small scale.

Another method tried out involves the spraying of the gas fumes with water and passing them through moist bags, which retain the potash. This method has been tried out in extracting potash from the fumes given off in the manufacture of cement. Its first practical application took place when a cement plant located near Redlands, California, undertook, in response to neighborhood protests, to cut down the volume of fumes emitted from its chimneys. Other cement plants have tried it out, and in the East the Security Cement and Lime Company at Hagerstown, Md., has been foremost in the recovery of potash from cement dust. Cement mixture contains potash in proportions varying from 1 per cent to 1 1-4 per cent. When calcining cement clinkers, the addition of salt to the coal that is burned in the kiln renders the potash soluble in water.

At a conference of experts recently held in the office of C. H. MacDowell, Director of the Chemicals Division of the War Industries Board, the opinion prevailed that

it would be entirely feasible to commercially develop a method of extracting the potash from blast furnace fumes, particularly in regions where the blast furnaces are located near ores in which potash occurs in quantities sufficient to insure substantial recoveries. The problem presents many technical difficulties since care must be taken in developing a by-product process not to interfere with the primary output.

The potash deposits in Germany resulted from the crystallization of sea water. In all of the 202 mines in that country, the potash is found in water-soluble form and for certain purposes can be used just as it comes from the mines without further refining. At Searles Lake, California, potash in this water-soluble form has been found in small quantities, and two factories have been established there to extract it. In Nebraska it has been possible to recover potash in fair quantities from certain alkali lakes located in that state. In Utah, Mr. MacDowell himself established a plant at which pure potash is recovered from alunite.

Elsewhere experiments have been made in recovering potash from certain by-products, such as beet-root molasses and wool scourings. Other sources of supply being studied are the potash shales of Alabama and Georgia, the green sands of New Jersey and the leucite deposits of Wyoming. There is, in fact, a considerable development now under way in the production of potash from leucite; and production likewise has been undertaken in Utah from certain brines contained in salt deposits west of Salt Lake City.

Unquestionably it is going to cost much more to produce potash in Germany and Alsace. War taxes, high food costs and other fundamentals will bring this about so that it will be a long time before European potash is brought to this country at the low cost prevailing before 1914.

Permit Order Unnecessary

Shippers of bituminous coal to Canada were not required to obtain Canadian permits after December 9, according to an announcement made by the United States Fuel Administration.

This cancellation of a provision of an order issued September 19, 1917, has no effect upon the requirements of the same order in respect to anthracite coal.

The movement of bituminous coal to Canada must still be made by the customary routes, and within the zones to which producers may ship, except in cases where permits for out-of-zone movements to the Dominion have been issued by the Fuel Administration.

Alaska Chapter Formally Organized

At a meeting of the Tanana Valley Miners Association, held at Fairbanks, Alaska, August 30th, there was completed the organization of the Alaska Chapter of the American Mining Congress.

A convention of operators was called October 18th in Fairbanks and the following directors were elected for the Chapter: F. C. Bleecker, W. T. Burns, L. D. Colbert, C. M. Crites, John A. Davis, John Gross, L. C. Hess, S. Howell, Paul Hopkins, James A. Haney, Albert Johnson, G. A. MacQuarrie, Ben Thompson, Lars Westenvick, J. F. Zimmerman.

The directors elected the following officers for the ensuing year:

Governor, John A. Davis; Vice-Governors, Ben A. Thompson, G. A. MacQuarrie, James A. Haney; Treasurer, J. F. Zimmerman; Secretary, (Not yet chosen); Executive Committee, G. A. MacQuarrie, John Gross, John A. Davis.

It is the intention of the Chapter to hold meetings once a month, at which one of two papers will be read on mining subjects of interest to the District, followed with general discussion by those present.

At these monthly meetings, also, there will be opportunity for discussion of any local problem, or recommendations for the benefit of the mining industry. For example, at the November meeting, the question of starting the attempt to secure Federal aid for prospectors was to be taken up and discussed.

The operators present at the October convention appointed a committee to secure accurate data as to the advanced cost, since 1914, of all materials and supplies necessary in mining. The report of this committee will be forwarded to the American Mining Congress as soon as completed and it is believed that the information thus secured will be helpful in considering future activity in behalf of the gold producers.

The membership of the Alaska Chapter was materially increased at the October meeting, a large number of both active and associate members being recorded. John A. Davis, the Governor of the new chapter, is Director of the Bureau of Mines experiment station in Fairbanks and an enthusiastic believer in organized mining effort. The annual meeting of the Alaska Chapter will occur July 3rd of each year at such places as may be designated by the Board of Directors.

Governor Davis expresses the belief that the chapter will be of material aid to the operators in Alaska, both as a matter of commercial affiliation and general advancement of educational information among the operators and their men.

MINERAL OUTPUT 43 PER CENT
GREATER THAN EVER BEFORE

Production in 1918 Exceeded \$5,000,000,000,
or Billion and a Half Greater Than
Record Year of 1917.

The value of the minerals produced in the United States in 1917, according to the United States Geological Survey, Department of the Interior, was \$5,010,948,000, an increase of \$1,496,796,000, or about 43 per cent. over the former record, \$3,513,972,000, established in 1916. The blast furnace products (pig iron and ferroalloys), copper, coal and petroleum contributed 74 per cent of the total value of minerals produced and 88 per cent of the increase in 1917.

The metals established a new record in 1917, being valued at nearly \$2,092,000,000 and representing 42 per cent of the total value of the mineral product. They showed an increase of about \$471,316,000, or 29 per cent, over the \$1,620,508,000 reported for 1916. The blast furnace products contributed nearly 90 per cent of the total increase. Increases were also made in the value of aluminum, copper, lead and silver, but decreases were recorded in the value of gold and zinc.

The value of the non-metallic products in 1917 was 58 per cent of the value of all minerals produced, increasing \$1,010,459,000, or nearly 54 per cent, from the former record of \$1,878,464,000 in 1916 to \$2,888,923,000 in 1917. Of this total increase coal alone represented nearly 66 per cent, and coal and petroleum combined contributed about 85 per cent.

SULPHURIC ACID REQUIREMENTS
FOR 1919 ARE DISCUSSED

A memorandum concerning the Present Sulphuric Acid Capacity and Estimated Requirements for 1919 has been prepared by Arthur E. Wells, Metallurgist of the United States Bureau of Mines.

Mr. Wells has made a very thorough study of the acid situation in the United States since the beginning of the war in 1914 and the figures submitted by him can be considered as coming from one of the best authorities on the subject in Washington. The reports read as follows:

On January 1, 1918, the total manufacturing capacity of the country for acid was 427,000 tons per month, (basis 100 per cent H₂SO₄), or 8,200,000 tons per year (basis 50 degrees Be), of which 29 per cent was at contract acid plants.

On November 1, 1918, the total manufacturing capacity of the country was 500,000 tons per month (basis 100 per cent H₂SO₄), or 9,600,000 tons per year (basis

50 degrees Be). Of this total capacity 40 per cent was at contract acid plants.

This capacity was divided among (1) government, (2) explosives companies, (3) all others, including commercial manufacturers, by-product manufacturers, etc., as follows:

	Capacity	
	Expressed as tons per month, 100 per cent.	Expressed as tons per year 50 de- grees Be.
(1) At Government plants	54,000	1,040,000
(2) At plants of Ex- plosives manu- facturers	58,000	1,120,000
(3) All others	388,000	7,440,000
	<hr/> 500,000	<hr/> 9,600,000

Inasmuch as the acid market conditions in the intermountain and Pacific Coast districts are quite distinct from those in the east, and as there has been brought about very little, if any, disturbance in those districts except for possibly some slight disturbances in the San Francisco district, it is not necessary to include the figures for those districts in the discussions regarding eastern conditions.

The total capacity east of the Mississippi river, and also including the plant at Argentine, Kansas, and the plants in Louisiana and Arkansas, is as follows:

	Tons per month as 100% H ₂ SO ₄
(1) At government plants	54,000
(2) At plants of explosives com- panies	50,000
(3) All others	350,000
Total	<hr/> 454,000

If we assume that the government plants and the contract plants which were built by the explosives companies primarily to supply acid for munitions explosives, are not operated in 1919, or if operated at all, the production will be utilized only for munitions and thus will not be placed on the market, there remains a total capacity to be considered in the eastern part of the United States amounting to 365,000 tons per month (basis 100 per cent H₂SO₄), or 7,000,000 tons per year (basis 50 degrees Be).

During the first nine months of 1918 the actual rate of production was only about 90 per cent of the rated maximum capacity, although many plants were operating much above the rated capacities. Therefore, it is fair to conclude that the probable maximum output from these plants during the

year 1919 cannot be greater than 90 per cent of the rated capacity, or in other words, the maximum output could be only about 328,000 tons per month (basis 100 per cent H_2SO_4) or 6,300,000 tons per year (basis 50 degrees Be).

During the months of June, July, and August, 1918, the following industries in the eastern part of the United States consumed approximately the following tonnage of acid:

Industries.	Tons per month basis 100% H_2SO_4
1. Domestic explosives.....	7,500
2. Fertilizers	109,400
3. Chemicals and drugs, including nitric acid, hydrochloric acid, ammonium sulphate.....	37,600
4. Oil refining.....	28,700
5. Steel pickling and galvanizing..	36,200
6. Fabrics, textiles, tanning, rubber, paper, bleaching.....	5,100
7. Paints, lithopone, dyes, glue, glycerine, alcohol.....	.....
8. Storage batteries, metallurgical work	4,700
9. Miscellaneous and unknown....	4,600

Total 240,000
or 4,600,000 tons per year (basis 50 degrees Be).

It is believed that the consumption of acid in the various industries during the period as given above offers a better basis for estimating the future consumption during 1919 than any reference to the figures of 1914. However, it may be stated by way of comparison that in the eastern half of the United States, there were consumed in 1914 about 3,500,000 tons of acid (basis 50 degrees Be), according to the figures compiled by the U. S. Geological Survey. From these figures, it is evident that between the years 1914 and 1918, there was an increase in the requirements of acid for industries, other than munitions explosives, amounting to about 1,000,000 (basis 50 degrees Be). The consumption of acid for fertilizers will undoubtedly be greater in 1919 than in 1918, and will probably average at least 130,000 tons per month (basis 100 per cent H_2SO_4), or 2,500,000 tons per year (basis 50 degrees Be). Thus, with general business conditions favorable, the average monthly consumption of acid in the above industries in the eastern part of the country during the year 1919 should not be less than 260,000 tons per month (basis 100 per cent H_2SO_4), or 5,000,000 tons per year (basis 50 degrees Be). This would require operating all the plants at about 71 per cent of the rated maximum capacity, if the business was distributed over the district proportionately to the manufac-

turing capacity in the various districts. As a matter of fact, the southern fertilizer plants will probably operate to full capacity, while plants in Boston, New York, Philadelphia, and Baltimore districts may have to average less than 70 per cent of the rated capacity.

The production and consumption of acid in the western half of the United States will probably be about 500,000 tons per year (basis 50 degrees Be), so that the total production for the whole country will be about 5,500,000 tons in 1919.

DEPLETION OF PETROLEUM

STOCKS CONTINUES IN OCTOBER

The moderate loss in the quantity of petroleum moved from wells and field storage tanks charged in October to the Gulf Coast field was more than offset by the gain credited in that month to the other fields listed, and the result was a net gain of 5.3 per cent, compared with September, 1918, but a net loss of 3.5 per cent compared with October, 1917. The average daily rate of petroleum movement in October, indicated by these figures, was 1.3 per cent greater than in September, 1918, and 3.5 per cent less than in October, 1917.

Withdrawals in October from stocks of Oklahoma-Kansas and Rocky Mountain oil considerably exceeded the moderate additions made to stocks of other oils, and the result was a net depletion of about 2,000,000 barrels during the month. Since October 31, 1917, stocks of petroleum in the fields to which this summary relates have been depleted by about 25,000,000 barrels.

The quantity of petroleum apparently consumed in October, 1918, was 3.1 per cent less than in September, 1918, and 4.2 per cent less than in October, 1917, the average daily rate of consumption being 6.2 per cent less than in September, 1918, and 4.2 per cent less than in October a year ago.

The above was prepared under the supervision of J. D. Northrop, of the Geological Survey.

New Solicitor for Fuel Administration

Announcement has been made by Fuel Administrator Harry A. Garfield of the appointment of Frank E. Harkness as solicitor of the United States Fuel Administration.

The Van Kirk-Carrol Coal Company recently opened a new mine at Dell Roy, Ohio, and has equipped it with Jacobsen & Schraeder's screens, and their equipment for picking and loading coal. This equipment has been so satisfactory that they have decided to install it in all of their properties.

NORMAN CARMICHAEL NEW GOVERNOR ARIZONA CHAPTER

The annual meeting of the Arizona Chapter American Mining Congress convened in Phoenix on the 4th. Business of the two-day session included election of directors and their organizations. The old board of directors was reelected in full.

Capt. J. P. Hodgson, twice elected governor of the chapter, declined a third term and nominated Norman Carmichael of the Arizona Copper Company of Clifton for the high office of the organization. Mr. Carmichael received the unanimous vote of the meeting. Robert E. Tally of United Verde was elected first vice president, W. B. Gohring of Calumet & Arizona, second vice president, and G. H. Dowell of Phelps, Dodge Corporation, third vice president.

J. E. Curry was reelected secretary of the chapter and H. J. McClung, treasurer. All elections were by unanimous vote. Headquarters of the chapter continue at Bisbee. In attendance at the meetings were representative mining men from all of the producing districts of the state.

PLACE IN CABINET

Matters of importance discussed included renewal of urgency by the chapter that mining be given a place in the national cabinet and the endorsement of the principle of plans proposed for expansion of the activities of the National Mining Congress organization, particularly with reference to broader work in the statistical field and greater cooperation of all the mining divisions—coal, iron, copper, etc.—to the end of general gain for the industry in public consideration and in usefulness to all elements in the country.

The report of Secretary J. E. Curry for the past year included much of interest and is quoted from as follows:

COPPER PRODUCTION

"The copper production of the state of Arizona for the year 1918 is estimated to be 829,000,000 pounds, as against the previous year's production of 700,000,000 pounds, showing an increase of 129,000,000 pounds. Not included in above figures might be conservatively estimated 500,000 pounds of copper produced by Arizona mines from shipments of ore to smelters outside the state.

SUPPLY OF COPPER

"It is estimated that more copper has been produced since July than has been sold, yet apparently there has been a shortage in supply. The shortage, however, is unreal and is accounted for by delays in refining and transportation. Forcing production has been the rule. Keeping up production, handicapped by a shortage of labor with which to carry on development, has brought many mines into a restricted productive capacity. Advance development work must be done before the properties will again be at their best.

COST OF COPPER

"The advance in wages, freight rates and the increased cost of all supplies, together with war taxes, has brought the cost of producing a pound of copper to more than double pre-war cost and in many instances materially higher.

"With no reduction in wages, freight rates or supplies, there is no inducement for mining companies to continue forcing output even upon the continuance of the present market price of 26 cents a pound.

EFFICIENCY OF WORKING FORCES

"In mining and manufacturing generally, it is reported there has been notoriously diminished efficiency in work per hour or shift. Although wages are higher, efficiency is low. While this is clearly noticeable in manufacturing, it is more real than noticeable in mining when per ton or ore per man is taken into consideration. Figures may be set up to show that efficiency has either increased or decreased, but personal observation will, in every instance, show efficiency in working forces since the pre-war period has materially decreased."

MONTANA INCREASES MINERAL YIELD BY \$12,000,000 IN 1918

The value of the gold, silver, copper, lead, and zinc mined in Montana in 1918, according to the estimate of C. N. Gerry, of the United States Geological Survey, Department of the Interior, was more than \$122,000,000, an increase of about \$12,000,000. There was a decided decrease in the gold output, but increases in all the other metals. The output of Montana depends principally on the activity of the mines at Butte, and though these did not make a record output their yield was not seriously curtailed by labor strikes, as it was the year before.

The value of the gold output decreased from \$3,517,253 in 1917 to about \$3,177,000 in 1918, in spite of the fact that gold from copper ores probably increased. One of the main reasons for this difference was the decreased output from the Conrey dredges, in Alder Gulch, Madison county. Gold from the properties of the Barnes King Mining Co. was also much less than in 1917, though the company is still one of the chief gold producers in the state. The Southern Cross mine, at Georgetown, from which iron ore is shipped, was the third largest gold producer of Montana. Some very rich ore came from the Scratch Gravel mine, in Lewis and Clark county.

The mine output of silver increased from 13,120,142 ounces in 1917 to about 16,000,000 ounces in 1918, and the value of the output increased from \$10,817,589 to about \$15,600,000. This total makes Montana the leading silver producer of the United States. As in past years, most of this silver came from copper

ores, but a large part of the increase resulted from residues from zinc ores, either those smelted in the East or those treated in the electrolytic plant at Great Falls. The principal contributors of silver were the combined Anaconda properties and the Butte and Superior, the North Butte, the Elm Orlu, the Davis Daly and the Tuolumne.

The output of copper increased from 274,462,574 pounds in 1917 to about 328,000,000 pounds in 1918. This represents an increase of nearly 54,000,000 pounds in quantity and over \$6,000,000 in value. However, the increase was unusual, for the year 1917 was not a normal one as the main properties were idle for several months. The average monthly production from the smelting plants of the Anaconda Copper Co. at Great Falls and Anaconda, according to published statements, was about 24,500,000 pounds of copper. The Pittsmont plant of the East Butte Co. produced approximately 2,000,000 pounds a month. Aside from the mines of the Anaconda and East Butte companies, the North Butte, Davis Daly, Elm Orlu, Butte and Superior, Butte Duluth, Tuolumne, and Bullwhacker yielded considerable copper.

The mine production of lead increased from 21,951,220 pounds in 1917 to about 35,000,000 pounds in 1918. The value of the output increased from \$1,887,805 to about \$2,668,000. A large part of the lead came from the lead-zinc ores of the Anaconda properties at Butte, treated at Great Falls. The Butte and Superior property at Butte, and the Snow Storm Mine at Troy, Lincoln county, were also notable contributors. Smaller quantities came from the Angelica and Pilgrim mines, in Jefferson county, and the Davis Daly property, at Butte. The unusual increases in both lead and silver are due to the marketing of by-products from the electrolytic zinc plant at Great Falls.

The output of recoverable zinc in Montana increased from 186,259,331 pounds in 1917 to about 210,000,000 pounds in 1918. The value of the output increased from \$18,998,452 to \$19,551,000. The three main zinc producers of Montana were the Butte and Superior, the Anaconda mines, and the Elm Orlu property. Other noteworthy producers were the Snow Storm mine, in Lincoln county; the Davis Daly, at Butte; and the Emma mine of the Butte Copper and Zinc Co. Many of the Western states showed decreases in zinc production in 1918, but Montana produced an unusually large quantity on account of the activity of the plant at Great Falls, which was making about 6,000,000 pounds of spelter a month.

Dividends paid by Montana companies for the first eleven months of 1918 amounted to \$19,754,870. The principal dividend payers were the Anaconda, North Butte, Butte Copper and Zinc, Davis Daly, and Barnes King.

UTAH'S 1918 MINE OUTPUT

WAS WORTH \$87,600,000

The output of gold, silver, copper, lead, and zinc from the mines of Utah in 1918, according to Victor C. Heikes, of the United States Geological Survey, Department of the Interior, had a value of about \$87,600,000, which represents a decrease of nearly \$12,000,000 from the value of the output in 1917. Except in silver, the production of which increased slightly, there were decreased in all five of the metals produced. The average price of silver for the year was much higher than in 1917, but the prices of copper, lead, and zinc were less. The industry in general was greatly hampered by the scarcity of labor and the unusually high cost of materials and supplies.

The four smelting plants of the state were active throughout the year, on both Utah ores and custom ores, but they were not run at full capacity during the entire year and no records were made.

The mine production of gold decreased from \$3,355,156 in 1917 to approximately \$3,000,000 in 1918, a decrease of nearly 10 per cent. Most of the gold came from copper, lead, and zinc ores treated at smelting plants. No great amount of ore was either amalgamated or cyanided.

The mine output of silver increased from 13,479,133 ounces, valued at \$11,106,806, in 1917, to about 13,680,000 ounces, valued at 13,200,000, in 1918. Although this is not a large increase in quantity, it is rather surprising that the output was upheld, inasmuch as there were decided decreases in all the other metals. The main increase in silver production came from the Tintic Standard mine, north of Eureka. The Chief Consolidated held the record of producing more silver than any other mine in the state. Silver from the Park City district was considerably less, though a notable quantity came from the shipments of ore from the Ontario mine. In the Bingham district the Utah Apex and Utah Copper were the largest silver producers, followed by the Utah Consolidated.

The mine production of copper decreased from 246,674,153 pounds in 1917 to 233,000,000 pounds in 1918. As the price was somewhat less, the value of the output decreased from \$67,342,044 to about \$57,664,000. The largest production of copper came from the Utah Copper property at Bingham, which yielded close to 16,500,000 pounds a month throughout the year. This is practically the same as the production in 1917, so that the decrease in the total amount of copper produced was due to the smaller operators in the state. Reports for the second quarter of the year showed that the Utah Copper Co. was producing a large amount of metal from the treatment of copper ores in the new leaching plant. Next to the Utah Copper, the Utah Consol-

idated was the largest copper producer, followed by the Ohio Copper Co., whose output was considerably less than in 1917. In the other districts the principal copper producers were the Utah Leasing Co. at Newhouse, the Iron Blossom in the Tintic district, the Ophir Hill at Ophir, the Columbus-Rexall at Alta, the Salt Lake Copper Co. near Tecoma, Nev., and the Tintic Standard in the Tintic region.

The mine output of lead decreased from 178,521,958 pounds in 1917 to 162,000,000 pounds in 1918, a decrease of over 9 per cent. The value of the output decreased from \$15,352,388 to about \$12,200,000. The Utah Apex at Bingham was by far the largest lead producer in the state. Other notable producers were the Eagle and Blue Bell, Silver King Coalition, Utah Consolidated, Daly-Judge, Ophir Hill Consolidated, Chief Consolidated, Cardiff, Horn Silver, and Silver King Consolidated.

There was a decrease of about 20 per cent in the production of recoverable zinc. The mine output decreased from 21,286,871 pounds in 1917 to about 17,500,000 pounds in 1918, and the value of the output from \$2,171,261 to about \$1,454,000. The principal producers of zinc were the Midvale Mineral Co. and the Childers Leasing Co., which treated tailings near Midvale; the Caldo Mining Co., at Frisco, the Daly-Judge, at Park City; and the Utah Apex and United States Mining Co. property at Bingham. The electrolytic plant of the Judge Mining & Smelting Co., at Park City, was in successful operation during the year, and the plant was being enlarged. Other zinc shipments were made from the Scranton, Lake View, Chief Consolidated, and Hidden Treasure. Part of the lead-zinc ore from Utah was shipped to the electrolytic plant at Great Falls, Mont.

In 1918 the mines of Utah produced approximately 14,606,000 tons of ore, a decrease from 15,358,481 tons in 1917. Of this total, the Bingham district produced about 13,978,000 tons, against 14,150,394 tons in 1917. There was a decrease in the Tintic district, where 41 mines produced about 344,000 tons of ore, exclusive of iron ore, against 392,380 tons in 1917. The mines having an output of more than 4,000 tons during the year were the Dragon, Chief Consolidated, Iron Blossom, Eagle and Blue Bell, Tintic Standard, Centennial-Eureka, Grand Central, Mammoth, Colorado, Gold Chain, Gomini, and Victoria. The Tintic Milling Co. treated much ore locally and shipped bullion containing gold, silver, and copper. Shipments of ore and concentrate from the Park City region in 1918 amounted to about 90,000 tons, a decrease from 96,516 tons in 1917. Tabulation of the important mines gave an estimated output for the district of \$77,395 in gold, 2,626,000 ounces of silver, 918,000 pounds of copper, 24,064,000 pounds of lead, and 2,650,000 pounds of recoverable zinc. The

decrease was general, but the largest decline was in lead. Tooele county mines produced 99,000 tons in 1918, against 132,048 tons in 1917; the main producers were the Western Utah, Bullion Coalition, Ophir Hill Consolidated, and Ophir Coalition. About 39,000 tons of ore was shipped from the Big Cottonwood, Little Cottonwood, and American Fork districts, against a total of 51,813 tons in 1917. In Beaver county shipments increased from 64,532 tons in 1917 to about 67,000 tons in 1918. This included the large amount of low-grade lead tailings shipped by the Caldo Mining Co. Among the other producers was the Deer Trail mine, in the Ohio district, of Piute county.

Dividends paid by mining companies in Utah in 1918 for eleven months amounted to \$13,319,521. Dividends were also paid by the United States Smelting Co., which controls mines at Eureka and Bingham.

SCARCITY OF LABOR CUTS OUTPUT OF IDAHO MINES

The value of the gold, silver, copper, lead, and zinc mined in Idaho in 1918, according to the estimate of C. N. Gerry, of the United States Geological Survey, Department of the Interior, was about \$38,140,000, a decided decrease of \$16,700,000 from the value in 1917. The decrease was marked in all the metals but gold, as well as in the total value of the output. Even the value of the silver, which increased in price during the year, was less by more than \$600,000. Many of the mines, particularly the smaller ones, were handicapped on account of the scarcity of labor, and even the larger mines were at a great expense on account of the increases in cost of freight, treatment, and supplies. One of the encouraging features of the mining industry of Idaho was the successful operation of the Bunker Hill & Sullivan smelter and refinery at Kellogg. Toward the end of the year preparations were being made for the addition of two lead furnaces as well as other improvements in the roasting and refining departments.

The mine production of gold in Idaho increased from \$804,809 in 1917 to about \$867,000 in 1918. The most important gold production came from the Sherman and Corporal property, in Idaho county. Close to this was the output of the Gold Hill and Iowa mines, in Boise county. A considerable output of gold has its source in the copper ore from Mackay, in Custer county. Although the Boston and Idaho dredge at Idaho City was operated for a time during the year, the total gold from dredging operations was considerably decreased. The plant of the Kirtley Creek in Lemhi county, made only a small production previous to being dismantled, and the dredge at Pierce had only a slight output.

The mine output of silver decreased from 12,029,338 ounces in 1917 to about 9,595,000

ounces in 1918, an unusual decline of nearly 20 per cent, and the value decreased from \$9,912,175 to about \$9,286,000. Decreases amounting to 400,000 ounces or more were shown by the Hercules, Morning, Greenhill Cleveland, Caledonia, and Bunker Hill mines. Fortunately the Hecla, Tamarack & Custer, and Gold Hunter made better records. The largest silver producer of the state was the Hercules mine, at Burke, followed by the Hecla, near by, which took second place from the Bunker Hill & Sullivan, the third in rank. Other important silver producers were the Morning, Tamarack & Custer, Gold Hunter, and Caledonia. The mines in the Coeur d'Alene district produced about 8,600,000 ounces, or about 90 per cent of the total of the state.

The mine output of copper decreased from 7,827,574 pounds in 1917 to about 5,195,000 pounds in 1918. The value of the output decreased from \$2,136,928 to about \$1,286,000. largest producer, but did not uphold its record of the last few years. The National Copper mine, near Mullan, produced considerable copper from concentrate, and the Richmond mine, farther east, made shipments of crude ore. There were also smaller shipments from mines near Salmon, in Lemhi county.

The mine output of lead, which is the most abundant metal in Idaho, decreased from 393,559,521 pounds in 1917 to about 300,274,000 pounds in 1918. The average price was somewhat lower, and the value of the output decreased from \$33,846,119 to \$22,760,000. The Bunker Hill & Sullivan was the largest lead producer, followed by the Hercules, Hecla, and Morning. Considerable lead was produced by the Tamarack & Custer, Gold Hunter, Consolidated Interstate Callahan, Caledonia, Sierra Nevada, and Last Chance, at Wardner. Of the total lead, the Coeur d'Alene district produced about 286,000,000 pounds. In other districts of the state large tonnages of lead ore and concentrate came from the Idaho Continental, Pittsburgh-Idaho, Latest Out, and Independence mines, near Ketchum, in Blaine county. The Greenhill Cleveland, formerly a large producer of both lead and zinc, was closed in the early part of the year. Toward the end of the year shipments from the Caledonia mine, near Wardner, were decidedly decreased. A notable production, however, came from both the Hecla and the Tamarack and Custer properties.

The mine output of recoverable zinc in Idaho decreased from 79,854,136 pounds in 1917 to approximately 47,000,000 pounds in 1918. This decrease of over 32,000,000 pounds was due largely to increased expenses and the lower price of spelter. One of the main decreases was made by the largest zinc producer in the state, the Consolidated Interstate Callahan, which was treating a large tonnage of accumulated tailings during the third quarter of the year, while development was

progressing in the mine. The Success mine, which was formerly a large zinc producer, shipped only about one-fourth of its former output. Other zinc shipments were made from the Morning, Frisco, Hercules, and Hecla. The Douglas property, on Pine Creek, was not as productive as formerly on account of difficulty in transporting the ore, and the Surprise Consolidated, in the same district, was idle. Considerable shipments of zinc ore came from the Amazon-Manhattan, adjoining the Interstate Callahan, and in Blaine county shipments were made from the North Star and the Kusa property.

Dividends from Idaho mining companies for the first eleven months of 1918 amounted to about \$7,007,105. Those for the Hercules and Bunker Hill & Sullivan have been estimated by the mining press.

ALASKA MINES DO WELL DESPITE MANY HANDICAPS

The mines of Alaska yielded in 1918 products worth \$28,900,000, according to preliminary estimates prepared by G. C. Martin, of the U. S. Geological Survey, Department of the Interior. Although Alaska mining was so adversely affected by shortage of labor and shipping and by high cost of supplies that the value of the output fell nearly \$12,000,000 from 1917, the production was still far greater than in any year before 1915. Alaska's chief mineral product is copper, of which 69,426,000 pounds, valued at \$17,180,000, was mined in 1918. The gold output, worth \$10,000,000, of which placers yielded \$5,100,000, was \$4,650,000 less than in 1917 and was the smallest since 1904. The mining of 77,000 tons of coal, worth \$435,000, is significant as the only marked advance over the production of 1917, as by far the largest coal output in Alaska mining, and as the probable beginning of a substantial coal industry. Alaska also produced in 1918 silver worth \$870,000; tin worth \$90,000; lead worth \$85,000; chrome ore, tungsten, palladium, platinum, and antimony aggregating \$117,000; and petroleum, marble, gypsum, lime, and bricks aggregating \$120,000. The total yield of Alaska mines since 1880 has been more than \$419,000,000. Of this, gold was worth \$302,000,000 and copper \$105,800,000.

No Permit Needed to Sell Export Coal

Revocation of the ruling prohibiting the sale or delivery of coke for export by ocean transportation, except upon the prior issuance of a permit by the United States Fuel Administration, has been announced by the Fuel Administration.

Announcement of the change in procedure was made in an official order amending a previous one relative to the "price of coke for export by ocean transportation."

CARBON BLACK MANUFACTURERS QUIT CERTAIN GAS FIELDS

The annual saving of 26,000,000,000 cubic feet of natural gas, the equivalent of one-eighth of the entire domestic natural gas consumption of the United States, can be effected in a single industry in West Virginia by state regulation, which will be proposed to the Legislature of West Virginia at its coming session, beginning January 10 at Charleston, according to an announcement made by the United States Fuel Administration.

A movement is under way for West Virginia to continue the activities for natural gas conservation, which have been started by the United States Fuel Administration. All the plants in the vicinity of Grantsville, W. Va., which manufacture carbon black, otherwise known as lamp black, from natural gas, have voluntarily agreed to close down immediately. This agreement, which has just been effected, will stop the wasteful consumption of 15,000,000 cubic feet per day, which will be made available for immediate use this winter for domestic and public utility purposes.

The operators of these plants have agreed to manufacture their product hereafter in either Wyoming or Louisiana from wells too remote from populous centers to be available for other uses. The Fuel Administration has also effected arrangements for the manufacture from this gas which will be saved 5,000 gallons of gasoline daily, which has heretofore gone to waste.

Appeals have been made to the Fuel Administration by representatives of numerous communities which obtain their supply of natural gas from the West Virginia fields, to curtail the use of natural gas in certain lines of industry. The demands for natural gas throughout the country are greater than the available supply. The use of natural gas is a privilege enjoyed by about 10 per cent of our population. When present supplies are exhausted, the users of natural gas must return to the more expensive manufactured gas.

The Fuel Administration takes the position that where natural gas is available for domestic and industrial purposes, its unrestricted use in the manufacture of carbon black is a wasteful practice.

"Carbon black" is a term applied to a material deposited by the actual contact of a flame upon a metallic surface. Carbon black is now made by the wasteful process of incomplete combustion of natural gas—that is, the gas is simply burned in the open, the flame impinging against a metal plate, making the deposit known as carbon black. From one and one-eighth to one and one-half pounds of carbon black are made from each thousand cubic feet of gas burned. The heat contained in the gas is wasted, and only a small portion of the carbon content of the gas is utilized.

In the State of Ohio alone there are about 400,000 consumers of natural gas from West Virginia; Pennsylvania gets 43 per cent of the natural gas it uses from West Virginia, which also supplies 85 per cent of the natural gas used in Indiana and all of the natural gas used in Maryland.

PERSONALS

Messrs. J. B. Eldridge, Boise, Idaho, vice president of the Idaho Mining Association, and L. G. Magee of Boise, were recent callers at the Headquarters of the American Mining Congress. Mr. Eldridge is heavily interested in the production of gold.

Charles P. Reiniger, president of the Arizona Mining Association, an organization of producers affiliated with the Arizona Chapter of the American Mining Congress, spent January 3rd at the national headquarters of the Congress, discussing plans for enlarging the work of his organization along lines of mutual protection, purchasing and distribution of supplies, contracting, etc. Mr. Reiniger is a "live wire" and an enthusiastic organizer. He is completing plans for a state convention of the new mining association late in February.

J. F. Callbreath, secretary of The American Mining Congress, left Washington early in January for an extended western trip. He will attend the meeting of the Colorado Chapter, January 3 and 4, and a meeting of the Arizona Chapter, January 10. From there he will go to San Francisco to be present at the meeting of the California Metal Producers' Association, when a chapter of the Congress will be created for California. He expects to return to the Washington headquarters about February 1.

Bulkeley Wells, president of The American Mining Congress, attended the meeting of the California Metal Producers' Association, at San Francisco, January 17, assisting in the plans for the establishment of a California Chapter of the Congress.

John C. Howard, Director, The American Mining Congress, is spending several weeks in California.

Fuel Official Resigns

The resignation of Russell Hastings who, since December 31, 1917, had been connected with the United States Fuel Administration as assistant in distribution of bituminous coal and in direct charge of that work as it was related to public utilities, became effective December 17.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

PROTESTS LICENSE ISSUANCE

The American Mining Congress has placed before the import license division of the War Trade Board, a brief giving the documentary evidence to prove that should the War Trade Board continue its policy of admitting foreign manganese into this country under pre-war contracts, the glut of the American market, already resulting from the failure of the War Minerals Bill to function, will become so distressing that it will take many months for the manganese market to reopen to the domestic producer.

A few days ago the import license division issued two licenses, one for 10,000 tons and another for 1,500 tons of English-made ferromanganese. The applications for these licenses stated that this ferro had been contracted for previous to the declaration of war between the United States and Germany, and the contractors had been unable to fulfill their contracts with American consumers. They agreed that they would not place the incoming ferro in the open market, but that the entire tonnage should be delivered to one consumer. The War Trade Board circular authorized additional tonnage up to 8,500 tons upon the issuance of the proper license for import, but up to the time of filing of the American Mining Congress' protest, no additional licenses had been requested, and it is hoped that the pleas of the mining men for the further protection of an embargo will be respected, until some form of relief for the mining industry can be secured through Congressional action.

ESSENTIALLY BUREAUCRATIC

One of the misfortunes of the late Nicholas Romanoff was, that, having created certain bureaus, he was held responsible for their conduct, even though kept in ignorance of it. The poor fellow didn't even know that the people were displeased with his bureaus until he was practically deposed and placed under arrest.

The United States is a whale of a place. And a hundred millions are quite a few. The White House is nothing at all—compared with Pike's Peak. And the President is, after all, only an individual.

So, when the President—anyone—sits in the White House and creates bureaus to ramble all over the United States, he is going to have quite a job to see that they do not misbehave and damn him in the eyes of the whole people. A prudent President will not create bureaus. Or, if he does, he will cast them adrift from his person and make them stand on their own actions. At least, he will pin responsibility for them to the tails of the frock-coat of some member of his Cabinet.

All of which is apropos the action of one small subdivision of the United States Railroad Administration, which is a subdivision of Woodrow Wilson, after a manner of speaking. It is now approaching the 1st of April when, by custom, the railroads buy their fuel for the succeeding coal year. The Baltimore & Ohio found itself under necessity to buy coal. It drew up a contract covering the proposed transaction and submitted it to the coal companies. In it was one im-

cent-looking clause to this effect (translated from the legal phraseology into English):

"We will take the coal and pay for it, if you keep your mouth shut. But, if you tell anybody how much we bought or what we paid, we will cancel the contract."

This, on its face, looks innocent enough—just a little precaution of the purchasing agent to keep the second buyer from knowing what the first paid, in the hope that the second price will be a little lower.

It isn't quite so innocent as it seems, when all the facts are known. Out in Illinois, Dr. Honnold had been made secretary of an association of operators. He faced two situations: The operators had hired him to do something, but didn't have the slightest idea what he was to do or could do. Also they were constantly being told by their salesmen:

"We will have to cut the price because the operator next door is cutting."

The salesman took the word of the buyer—always truthful and disinterested, of course. The operator took the word of the salesman. There was nothing else to do. So prices were cut. After years of this sort of shadow-boxing with imagined price-cutting competitors, the operators decided to hire Dr. Honnold and form an association. The doctor saw the situation, and said:

"If you want to know what prices are being charged, report to me the prices you accept. I'll tell everybody."

The lawyers said that was all right—so long as it referred to historical transactions. Some courts have said the same thing. So the scheme worked out in Illinois.

After that the National Coal Association was formed, and Mr. Morrow found himself occupying a duplicate of Dr. Honnold's early position. He decided to adopt the Honnold way out of it. With an open-price association covering the nation, lying to coal salesmen, as a means of beating down prices, promised to be not only unproductive but embarrassing. More to the point, it was going to cost the railroads some money, both now and in future.

Clearly, the only thing to do was to break up that open-price association. That desire was the father of the little scheme which the Baltimore & Ohio originated when it tried to bribe certain operators—with contracts—to refuse to report their prices.

Coming back to the late Nicholas of Russia. He fell, because what his bureaus did, made his administration unpopular. The Railroad Administration, by such tactics as described, are going to make the Railroad Administration unpopular.

ASKING FOR JUSTICE

The progress of the relief legislation asked by the war minerals division of the American Mining Congress, in behalf of producers of war minerals, has been slow but quite satisfactory because of the fact that in the preparatory work in connection with the passage of this legislation there has been laid a firm foundation upon which the claims for relief in the proposed measure may stand fearlessly and hopefully.

In order that the special legislation need not take the ordinary course, which is the fate of so many bills, it has, by consent of both committees on Mines and Mining and Military Affairs, been attached to Senator Chamberlain's amendment to the Dent Bill as referred from the House to the Senate. Two more amendments were added at the suggestion of the Department of the Interior, the first providing that the evidence must show that investments of time, money, and labor in these war minerals was the result of direct or indirect requests of the Department of the Interior, the War Industries Board, the War Trade Board, or some other authorized agency of the Government, and second, fixing a three months' limit during which the claims for relief must be presented in the proper form. As THE MINING CONGRESS JOURNAL goes to press, this legislation appears to be in a fair way for early passage upon a satisfactory basis.

SLIGHTLY ERRONEOUS

In a recent issue of the Engineering and Mining Journal, of New York, our highly esteemed friend, the editor, devotes considerable space to most peculiar and unfortunate editorial discussion of the objects of the relief legislation now before both Houses of Congress in connection with the failure of the War Minerals Bill to function.

After careful perusal of the aforesaid editorial, THE MINING CONGRESS JOURNAL cannot but wonder by what influence the editor was misled into assuming an attitude so unfair to the industry of which he is usually an able champion.

The readers of the Engineering and Mining Journal are led by the aforesaid editorial to believe that the men who responded to the Government's appeal for help in time of trouble, are little less than financial pirates who are endeavoring under the cover of patriotism to milk the United States Treasury for their own benefit. The editorial in question fails to give credit to a single man for a single honest impulse based upon patriotism or political righteousness.

Knowing the excellent standard attained and heretofore maintained by our esteemed contemporary, and the large and representative circulation of our contemporary, THE MINING CONGRESS JOURNAL believes that the publication of such erroneous statements at this time is most regrettable.

The attack on the proposed legislation is in fact an attack upon the integrity of the American Mining Congress and the honesty of its intention in fostering such legislation, because of the fact that the legislation is the result of the organization of the war minerals division of the American Mining Congress, which division, in turn, is composed of the producers of the various war minerals mentioned in the Henderson War Minerals Bill. The operators have made a most remarkable showing of negligence on the part of the United States Government in carrying out its moral obligations assumed under the stress of war.

The American Mining Congress has received very many letters and telegrams showing distress among the producers of

chrome, manganese, and other war materials. The evidence proves that the administration officials were directly the cause of much of the investment for the carrying out of the "speeding up" program in most cases. Much of this evidence has been assembled for presentation to the proper committees and authorities of the Government. The officers of the American Mining Congress believe that there has never been a more serious administration blunder than is apparent from the evidence in hand, showing the treatment of the producers by those responsible for their distress. When the war minerals division of the American Mining Congress was organized it was done not in the hysteria of convention excitement, but as a result of many weeks of investigation as to the need of such an organization.

The American Mining Congress believes that it is worth while for America to establish her mines upon a permanent, profitable basis and also that it is necessary to make good the word of the Government given to the men who, during this war have responded instantly, and who, should there be another war blight upon this country, would of necessity be asked to respond to the second call for help.

We assume that our esteemed contemporary will aim to learn the facts and that henceforth that publication will cooperate in securing justice for the industry, rather than to hamper the efforts of those whose claims are already recognized and admitted by the federal agencies responsible for the condition.

LABOR FEDERATION HELPING TO SECURE LEGISLATION

One of the interesting features of the conference of war minerals producers, called by the American Mining Congress, December 16 and 17, was a twenty-minute address by James Lord, President of the Mining Department of the American Federation of Labor. In addressing the employers he drew an effectively dramatic word picture of the reasons for the failure of mining operators to secure results as compared with

the results obtained by the American Federation of Labor.

"Allow me to say," he declared, "in all fairness and in the kindest spirit that the mine owners of America—I speak from experience—have never shown the same solidarity, the same intelligent opinion and the united action that the miners have. For that reason they make themselves the victims of cut-throat competition that is absolutely unnecessary and doesn't do the business any good. I have seen the copper industry on a fine, high plane, where everybody had a chance to make good. I have seen the panic strike them overnight and have seen them go into the market and continue as long as there was a chance to make a sale. I speak from experience.

"I have had many years of experience and I will welcome the day when all the directors of the mines are organized in the same way that the miners are for our own mutual interests and for the dignity of the industry."

In addition to this much-needed advice, Mr. Lord pledged the support of the American Federation of Labor to assist the American Mining Congress in securing proper relief and protection of the industry in its hour of need.

Since the conference, Mr. Lord has met with the executive committee, and to the courtesy of the American Federation of Labor as represented by Mr. Lord is due, to a great degree, some of the hope of the ultimate success of this movement.

THE GRAPHITE SITUATION

American graphite men have reason to feel thoroughly discouraged. Millions of dollars have been invested in the graphite business during the past four years, largely on the urgent encouragement of the United States Government, because of the shortage of foreign graphite resulting from war conditions. From the outset, the graphite men have faced a difficult proposition. They have had to combat freight embargoes, high labor costs, labor trouble, lack of organization in the production, and an uncertain market. Thousands of small investors have been led to take hold of graphite develop-

ment and these small investors have financed many of the corporations which have proceeded with the development of this industry.

In the words of one prominent graphite man: "Even the Government, which desired us to produce to the maximum, seemed to work against us from every standpoint. Whenever we would assemble a few good workmen, the government shipbuilding yards would send representatives into the districts and call out these men, offering them better wages to go to the shipyards, and now that peace seems in sight, no one seems to be especially interested in the life or death of the industry. Something must be done promptly to save the thousands of men who have invested their money to produce this mineral."

The war minerals division of the American Mining Congress is endeavoring to organize the graphite men, with a reasonable degree of success. It is anticipated that the graphite producers will shortly cooperate with the object of organization on a national basis, and we hope that graphite may develop into a permanent, profit-bearing industry.

ANOTHER STRONG LINK

Another strong link in the chain of the national organization of mining operators was forged by the organization of the California chapter of the American Mining Congress, in San Francisco, January 15 and 16. The membership of this chapter is representative of the best business interests of the state and includes both metal and oil operators. The chapter was organized at the request and upon the initiative of California Metal Producers' Association, a strong and representative body of mining men, which has accomplished excellent work in California during the past few years.

POTASH MEN JOIN

WAR MINERALS DIVISION

Among the recent activities of the war minerals division of the American Mining Congress was a resolution inviting the potash producers of America to join

with the division in an effort to place domestic production of the minerals and metals mentioned in the War Minerals Bill upon a permanent and profitable basis. Mr. Victor Barndt, of Tonopah, Nevada, heavily interested not only in metal mining, but in the development of potash, has been elected to membership in the executive committee, and an invitation has been extended by the committee to the Nebraska Potash Producers' Association to elect a member of the executive committee, thus giving the potash producers two representatives on the official roster of the division.

Communications from potash producers are being received and Mr. Barndt, after conference with the California producers, is now on his way East to attend a conference with the officers of the Nebraska Association to discuss the organization of a potash section of the war minerals division. It is expected that the potash section will soon open a permanent office with the American Mining Congress in Washington.

LABOR AND STAGNATION

In an article by Emmet D. Boyle, in this issue, there is found a summary of the demands of the British Labor Party. The labor situation in England, Scotland and Ireland is extremely serious. Strikes are extensive and include key-industries. The labor party there, as here, seems to lose sight of the fact that the wage for labor is dependent upon what labor creates.

A great deal is heard these days about the 6-hour day for labor, excused to an unthinking public with the statement that there is not sufficient work to employ all labor with the 8-hour day. But the 6-hour day to labor means more than that. It means time and a half for overtime after a working day of six hours.

The American Labor Party apparently loses sight of the fact it cannot force capital's operation. If capital cannot make a profit, it can at least remain idle, and idle capital means idle labor.

For instance, the copper industry is facing a situation which is typical of a large number of industries. It has over-produced. There are in this country

something over a billion pounds of copper for which there is no market. Copper companies are estimating their total production for the year, at little more than one-third their output during 1918. The cessation of war-time demands for copper, logically, means lower wages, or unemployment of vast numbers of men.

American labor is entitled to the very best wage that industry can afford to pay, and the time has come when capital realizes this fact and is ready and willing to meet the reasonable demands of labor, but capital has not an inexhaustible supply of money which will enable it to carry on industry indefinitely at a loss.

COMING DOWN

In a recent address delivered in New York, George Cushing told this story at his own expense:

"It had just been announced that I had resigned as editor of *The Black Diamond* to become head of the American Wholesale Coal Association when I met an old friend. His comment was: 'One thing is sure. You will aim high. Maybe you will hit something coming down.'"

One somehow feels that this is applicable to our spokesman now in France. Before leaving, he was credited with ambitions to pool the raw materials of the world, zone the world markets, and create an effective league of nations. At last reports he was clinging grimly to a hope that he could retain the former German colonies under international control—leaving the rest of the world to follow its nose as to commerce—and have the shadow rather than the substance of a league.

This seems, at first, like nothing short of humiliating defeat. It is nothing of the sort. Mr. Wilson is an idealist. He knows what should be done. His is not idealism. It is sublimated common sense.

He knew, therefore, when he went over, that he was not going to bring back all he went after. He knew he would have to give and take—mostly give. But, by clinging to his common sense about international affairs, he at least is making a start. He has the egg of a league

of nations. He has the egg of international control of dispute and danger points. He has won the world away from its chaos to that extent. He aimed high. He has hit something coming down.

We can't subscribe to Mr. Wilson's theory that the world's raw materials should be internationally controlled and distributed. That would mean international control of commodity prices. Certainly we can't subscribe to any such a theory until the economics of the world have been reduced to a common denominator. However, disagreement on a detail, which will be an issue a couple of centuries hence, does not mean disagreement with the basic idea which Mr. Wilson has in mind. He wants the world to act in common to keep the peace. If this does not work to make the world act in common to make war, it is an excellent plan. How it comes out depends wholly on how it is started out.

ROOSEVELTIAN ARITHMETIC

In the naïf autobiography of Theodore Roosevelt there is a characteristic bit of logic. He quotes his father as advising that: "If you are not going to earn money, you must learn not to spend it and get your pleasure in some other way."

To nothing is this advice more applicable and timely than to the abundant growth of associations now growing up in this country. It has been said that the war taught cooperation. This has led to the next logical suggestion which is to form associations. They have sprung up in every conceivable direction to do all sorts of things.

Associations do not earn money—in the commercial sense. They have no counters and no goods with price tags attached. In that sense, they are not earners. Yet they must spend something. There comes in the advice of Mr. Roosevelt, Sr. They must learn how to spend less.

In coal, six national associations and innumerable state and local associations exist. They all gather data. Part of what each association gets is of national

value. Yet, when another association—or the government—wants that data, it must be gathered all over again. The coal trade pays the bill for all of this work. It pays, through taxes, for what the government gathers. It pays through membership dues, for what the various associations gather. It is paying too much for its information. This data can be and should be exchanged, at a great saving to the coal trade.



C. H. MACDOWELL.

An authority on nitrates who has become nationally known as a result of his work for the government during the war.

HINES OUTLINES POLICY AS TO RAILROAD FUEL

Walker D. Hines, Director General of Railroads, January 17 authorized the following significant statement:

"The idea seems to have been suggested in some quarters that the Railroad Administration proposes to pursue a policy of so combining and using its purchasing bureau as to break down coal prices, with the result of forcing a reduction in the existing rates of pay for mining labor. This is not the case.

It is the policy of the Railroad Administration to avoid at this time any undue concentration of its purchasing power of coal and to

accomplish this purpose by permitting each road to purchase its own coal. It is further the policy of the Railroad Administration to require that all bids made and accepted shall be based on the existing scale of wages.

"There can be no excuse, therefore, for the making of the claim that coal operators are forced to reduce wages by reason of the Railroad Administration accepting any prices which may hereafter be offered it for coal.

"It is already fully understood that the railroads are not to use the car supply as a means of affecting prices. The policy on the other points above referred to is being clarified by the issuance of the following specific instructions, which are being issued to make this policy clear to the purchasing agents of the roads:

"1. The railroads must not violate existing contracts or cancel contracts where the quality of coal is in accordance with specifications without special consideration by the central advisory purchasing committee of the reasons for cancelling.

"2. The purchasing agent of each individual railroad shall buy the coal for that road under the supervision of the regional purchasing committee of his region. In all respects for bids the following paragraph should be inserted:

"It is distinctly understood that all bids are to be based on existing rates of pay for all mine labor, and the price will be subject to readjustment in event existing rates of pay are changed."

"On contracts awarded or orders placed the following paragraph should be inserted:

"It is distinctly understood that the prices named herein are based on existing rates of pay for all mine labor, and the prices will be subject to readjustment in event existing rates of pay are changed."

"3. For coal which it is necessary to purchase for requirements prior to April 1, 1919, the purchasing agent of each railroad should request that bids be submitted. They shall not undertake to fix the price of the seller's acceptance or make offers therefor, and shall agree only upon a price that shall be contingent upon the pay-for-mine-labor clause in paragraph No. 2. No negotiations for contracts for coal for delivery after April 1, 1919, should be undertaken without first obtaining the approval of the regional purchasing committee."

FUEL ADMINISTRATION STRIKES AT WASTE OF NATURAL GAS

Wasteful uses of natural gas such as burning it all day to save the trouble of turning it off, are to be reported hereafter to the United States Fuel Administration, under an order promulgated January 9.

Existing shortages of natural gas may be alleviated in some measure, Fuel Administration officials said, by the order, which says:

"It shall be deemed wasteful to burn natural gas by means of flambeaux or open lights; to burn natural gas for the purpose of outside lighting during daylight hours; to burn natural gas in inefficient appliances; to burn more natural gas than is reasonably necessary for the purpose which it is intended to serve; or to consume natural gas in any other manner which is not reasonably efficient and economical. Licensees are hereby directed to report to the United States Fuel Administration all cases where consumers persist in the wasteful use of natural gas."

The order was issued because of instances where natural gas was allowed to burn carelessly, even when under meter regulation, as well as for the guidance of so-called "Free" consumers, whose gas costs them nothing, it was stated.

Various attempts were made during the autumn to persuade "Free" consumers to limit themselves to 200,000 cubic feet a year, but these were unofficial as regards the Fuel Administration.

The marketed production of natural gas in the United States amounts to about 800,000,000 cubic feet a year, serving about 10 per cent of the population. This product takes the place of over 30,000,000 tons of coal. It is estimated that the wastage of natural gas is equal to the consumption, and that a conspicuous proportion of this loss results from practices which may readily be eradicated.

The natural gas situation has become steadily worse during the last few years. In many parts of the country at the present moment it is critical; in many communities the consequences during the coming winter threatens to be serious. The supply is beginning to run short and only by the greatest vigilance and care can due service be obtained from the quantity available. The losses in connection with use of natural gas are greater relatively than those of any other commodity, and many of these losses are subject to immediate improvement through enforcement of proper regulations.

As an example, it was pointed out that last winter in Louisville, Ky., when the supply of natural gas failed, it was found that 1.9 per cent of the consumers were using 30.7 per cent of the natural gas.

This was due in part to the consumption of natural gas in converted coal furnaces, a wholly improper appliance for burning natural gas according to Fuel Administration engineers. Public Utilities Commissions are now prohibiting the use of natural gas in appliances not primarily constructed for such use.

The so-called free gas feature has been especially troublesome and has resulted in depriving many domestic consumers of an adequate supply of the best fuel available for household use. In an extensive investigation of the amount of gas consumed by domestic consumers in West Virginia having this so-

called free gas service privilege (on account of having gas wells or gas lines on their farms), it was found that the average consumption per free consumer a year was 480,000 cubic feet. This is a waste of at least 350,000 cubic feet for each free consumer a year. There are at least 4,400 free consumers in West Virginia, and at this rate of waste this item alone amounts to 1,540,000,000 cubic feet a year.

The average annual consumption for each domestic natural gas consumer in the United States is 100,000 cubic feet.

Owing to the magnitude of the service rendered by natural gas and the significance of the preventable losses taking place in its consumption, the conservation of this product is one of great importance, especially during the coming winter. The efforts of the Fuel Administration toward the conservation of natural gas have already effected a considerable saving translatable in terms of coal.

Commissions on Confiscated Coal

The United States Fuel Administration has announced a ruling that an owner of coal confiscated by a railroad between April 1, and October 10, 1918, is not deprived by any regulation of the Fuel Administration in effect during such period, of any legal right which he may have to recover the purchasing agent's commission which he has paid or become obligated to pay on such confiscated coal; and, that the payment of such commission by a railroad on the settlement for coal confiscated during such period is not prohibited by any such regulation.

This ruling, it was announced, supersedes all interpretations inconsistent therewith previously issued to individual railroads or coal companies.

E. S. BASTIN NEW HEAD OF MINERAL RESOURCES WORK

The organization of the Division of Mineral Resources recently made effective, includes four sections—metals, non-metals other than fuels, mineral fuels, and foreign reserves. Edson S. Bastin is the geologist in charge of the division, and under his direct supervision will come the cooperative relations with state surveys and state mining bureaus, as well as the special liaison function of co-ordination of the survey's statistical work with the inquiries and needs of other federal organizations. The chief of the division will continue in charge of the western offices and in his general administrative duties will be assisted by F. J. Katz.

H. S. McCaskey, the former chief, is devoting his time to the study of special phases of American mineral resources, for which he has not been able to take time from his administrative work. He will also be available to assist in an advisory capacity, thus

giving the division the advantage of his experience.

Mr. McCaskey requested to be relieved of his administrative duties. It is characteristic of his devotion to this branch of public service, that at personal sacrifice, he continued his administrative work through the period of greatest demand upon his division, and mentioned his desire for relief only after the signing of the armistice.

G. F. Loughlin is the geologist in charge of the section of metals; R. W. Stone the geologist in charge of the section of non-metals other than fuels; C. E. Leshner, the geologist in charge of the section of mineral fuels, and J. B. Umpleby, the geologist in charge of the section of foreign reserves.

The expansion of the statistical studies, both domestic and foreign, will continue under the commodity specialists with some added assistants, working under their direction, while the reserve studies will be continued in general on a geographic basis. The geologists of Mr. Umpleby's section will this cooperate closely with the specialists of the other sections, with the view of giving well-rounded unity to the survey's preparation of its annual reports on the mineral resources of the United States.



C. H. CONNER

Who directed the Government's control of platinum

COAL'S POTENTIALITIES

BY GEORGE H. CUSHING

A New York lawyer said the other day that the motive power of the American people is a catch phrase. They will do anything, even to oversubscribing a Liberty Loan when they are short of money, if somebody can devise a catch phrase which will strike their keynote. Taking advantage of this peculiarity, those who want to reform all business invented the catch phrase, "Business will never be the same after the war." Everyone says it today almost as naturally and easily as he says "Good-morning," or "How is your health?" or "It's a fine day, isn't it?"

It is peculiar that everyone believes this to be true. Yet no one has stopped to analyze the situation to determine whether such a revolution can be made possible.

Nevertheless, when each man says that business will never be the same, he means something that his next-door neighbor never thought about. When the worker says it, he means that wages are going to be advanced and that he will have steady work. When the business man says it, he means that his profits are going to be regular and assured. When the consumer says it, he means that he is going to get the same old service but lower prices.

The worker and the business man mean that prices are going up. The consumer means that prices are coming down. There is, therefore, a clash of interests. One of these days there is going to come a "show-down" on this question.

Probably the inventor of the catch phrase meant that business was going to be more social in future. He didn't say as much, but he meant that financial and practical considerations after the war would be given less consideration. That is a pretty good-sized question to reduce to a generality. There may be some industries which have not been sufficiently social to be decent. I say there may have been; I do not know for sure. About the coal business I can speak. It has been entirely too social for its own solvency. It saved money by economies in pennies per ton in a few directions; it paid money out for social considerations in pennies and nickels per ton in many directions. The result, that all of the economies of production through twenty-five years were more than eaten up by the increased social obligations which coal assumed. Therefore, coal went in to sociology more than for profit, and was bankrupt—admittedly insolvent—when the war came. There is no room for any increase, socially, in coal. So, if you want business generally to be more social in the future, you must count coal out. It has gone the limit now.

There is one other thing to consider. The

facts with which the business man has to deal have not been changed by the single fact that a war intervened between two normal periods in business. We had before the war and we have now to consider the labor cost, the administrative cost, the selling cost, and the interest on the invested capital to figure into the total cost of a ton of coal. Those were essential parts of cost of doing business before; they are the essential parts of the cost of doing business now. The only way we can change the total cost is to change the cost in one or more of these elements.

Labor says its part of the total cost is not going down.

The banks say that they made no money during the war, and cannot now afford to loan their money for less than formerly they did. In fact, they say that the Government is paying for its money two and one-fourth times what it used to pay. Therefore, money is worth at least twice as much as it used to be.

These charges for labor and capital, therefore, are at an irreducible minimum. The only places where a reduction can be made are in the cost per ton of administration and selling. Whether that is possible or not remains to be seen.

Taking the past as a criterion, it is safe to say that in the coal business any reduction in the administrative or selling expense will be absorbed by the increased social activity of the coal industry; that is, the social side of coal absorbed all the saving effected by the use of improved machinery in mines. This has in twenty-five years amounted to at least one-half the former cost of production. It is safe to say that coal's social enterprises will absorb any small economy which will come through cheaper administrative and selling methods. There is not much hope, therefore, that the ambition of the consumer will be realized and that he will get coal at a less price.

There are some other things to take into account. One of them is the difficulty of overcoming the natural or inherent handicaps of the mining business as a whole. In the first place, the coal business is essentially different from all other businesses, for two reasons:

First, the supply of coal available for all time is now in the ground and within easy reach. That must be so for the very nature of things.

Second, the market for coal is determined by conditions over which the coal producer has no control whatever; the amount of house coal used is determined by the weather; the amount of steam coal used is determined by the general state of business. There is nothing which the operator can do to increase his consumption. He cannot, by ingenuity or by

advertising, create a demand that will increase the use of coal by a single pound. He must take demand as he finds it.

Thus the coal operator must, due to the uncontrolled reserve of coal, meet the competition of all possible comers in the matter of production without the ability to expand his sales beyond a known figure. His potential competition is the whole number of mines which can be opened into a coal deposit which will, apparently, last for a thousand years or more. His possible market is determined by whether the weather in winter is cold or warm and whether business is good or bad. The industry, on this account, has a certain inherent handicap which must always prevent it from ever becoming universally profitable, at least so long as reserves of coal in the ground are beyond control.

That is to say, if all coal mines in existence at any one time should become uniformly profitable, it would simply encourage the opening of new mines in the undeveloped coal area. The new competition would so greatly increase the possible output that the resulting run would engulf both the old and the new mines.

This is indicated by a few facts which will explain the present situation in both the anthracite and bituminous industry.

For anthracite, it is customary to figure that the minimum of capital which any operator can avoid raising if he wants to open a mine is \$3.50 per ton of annual output. This covers only his plant and development work. In addition, he has a charge for the coal itself. As a matter of fact, this figure is extremely low, probably a minimum. If the operator has a modern plant and difficult development, a conservative capitalization is \$7.50 per ton of annual output. To use the figure, therefore, of \$3.50 of capital per ton of annual output is to be extremely conservative.

Last year the average output of the anthracite collieries was about 375,000 tons. This was the average of the very big and little mines in that field. It is not the purpose here to base these estimates on the mine of proved average size. Instead I will make it a little less than the average, even though the facts are the other way. So I am going to hypothesize my estimates on a mine which can produce a thousand tons a day, and, by working three hundred days a year, get out 300,000 tons of coal a year. If such a mine must have a capital of \$3.50 per ton of annual output, the investment, exclusive of the cost of land—must amount to \$1,050,000.

On this investment the operator must pay:

An interest charge of at least 6 per cent.

He is entitled to a profit of at least 4 per cent.

He has to meet a hazard charge of at least 10 per cent.

This hazard charge is something which only recently has been figured as part of the essential cost of an anthracite operation. It is not based entirely on the actuarial figures; that is,

it is not true that one mine in ten becomes a total loss each year, or that there is an even chance that the entire mine will be lost inside of ten years.

It does mean, however, that, taking into account the risk of losing the entire property before the investment has been retired and *adding to it the cost of mine accidents*, the total charge to accident account amounts to 10 per cent.

Therefore, making a total of interest rates, profit and hazard allowance, the operator, to be assured that he is coming out whole, must make an annual charge off equal to 20 per cent of total invested capital. On a mine of the size described this means that the interest, profit and hazard charge must annually be \$210,000.

In the bituminous mines it is going to be assumed that the average production is 150,000 tons per year or the equivalent of 500 tons per day. That is above rather than below the average. In fact, the total average for the United States in 1918 was 126,000 tons.

It is customary to say that the bituminous operator must have a capitalization of \$1 per ton of annual output. This means that the bituminous mine of the size described must have a total capitalization of \$150,000 in equipment and development. This leaves out of consideration any cost of the land.

The fixed financial obligations of the bituminous operator are:

6 per cent on interest on investment.

4 per cent for the reasonable profit.

5 per cent for hazard.

This means that the total charge of these three necessary accounts amount to 15 cents per ton of annual output, or 15 per cent on the total investment in equipment and development.

The people of the United States must have both anthracite and bituminous coal. They must, therefore, pay a price for the same which will allow the operator to recover his investment during the life of his property and, having met all proper charges, realize a profit of at least 4 per cent on his investment. It is not a great deal to ask. How it is going to be assured is another very serious question.

For example, it would take an anthracite operator at least thirty years to retire—at any proper charge to the consumer—his investment of a million dollars on a 300,000-ton mine. Therefore, the anthracite operator must have in the ground thirty times the amount of coal he produces annually, or 9,000,000 tons. If each operator has in reserve 9,000,000 tons of coal, and if there are in the ground 5,000,000,000 tons of that coal, that means there is enough coal to support 555 mines of the size indicated.

The last statement on the subject by the United States Geological Survey showed that there were 271 anthracite mines. This means that the present development is 48.8 per cent

of the possible development in the anthracite field.

There is in the ground enough anthracite coal to last another hundred years. And yet there is under development today 48.8 per cent of that coal.

Only one of two things can happen: The existing mines must be relied upon to get out the coal, or the available supply of anthracite must be increased to the serious danger to the right to any anthracite at all of the next generation living in the immediate vicinity of these mines.

It seems, in fact, that the present development of present anthracite mines has gone as far as it is safe. Indeed, the fuel administration acted on the theory that 10 per cent of the existing mines are not necessary. Its bulk line cost was on only 90 per cent of the production. This may account for the fact that most observers of the anthracite situation have said that the development of that field has reached the peak and must be expected to recede rather than increase from now on. This is so in spite of the present inclination of the United States Senate to hold that the development of the anthracite deposit should be more extensive in order that through greater competition—regardless of the waste—the price may be less.

In bituminous coal we have an entirely different situation. There is, according to the United States Geological Survey, 4,188,600,000,000 tons of coal in the ground. Heretofore it has been indicated that the expected production from each bituminous mine can be 150,000 tons per year. If that mine is to have a life of thirty years and hopes in that time to retire its investment, it should have in reserve at least 4,500,000 tons of coal. This means that there is room in the bituminous field for 930,800 bituminous mines of the size indicated.

Instead of there being any such number, 5,000 such mines are more than would be needed to meet in normal times the demand for coal as it stood in 1918. That is, the country consumed in 1918—or bought at least—600,000,000 tons of coal. To have produced that coal, 5,000 mines need but to have produced 120,000 tons per year each. Therefore, 5,000 mines are ample for all possible needs. But if there is room for 930,800 mines, and if we consider that we have 2,000 mines more than are needed—and therefore have 7,000 mines all told—the actual development is only three-fourths of 1 per cent (.0075 per cent) of the potential development of bituminous mines. The figure 7,000 mines is used because it is estimated that these unnecessary 2,000 mines have actually been developed as a result of the high prices during the last two years. Therefore, it is easily possible to increase the present development of bituminous coal by 99¼ per cent and to give all of them a life of thirty years at full production.

This presents a problem for the American

people to solve. In reality it divides itself into two parts:

First, the present development of anthracite is 48.8 per cent of the possible development in that field. What is the Government going to do? Will it insist that the other 51.2 per cent shall be developed in order that the people now living may have, through greater competition, a little lower price for coal today. If so, two consequences must follow. One is that all coal operators in the anthracite field must lose money or consent to operate their mines for the benefit only of miners on one side, and the consumer on the other. Anthracite will become, therefore, an eleemosynary industry. The second must be that the present generation, scattered over the country, will get anthracite which it does not need at the expense of the future generation in the East which will need that anthracite.

The Government, therefore, must make choice between allowing the producers of anthracite to conduct a safe and profitable business and sacrificing the future generation and the present economy of the uses of anthracite coal. If the choice of courses is against both the present operators and the future generation, those who have their money invested in anthracite will say that the experiment must be made at government rather than at private expense.

Coming now to bituminous, a question of equal importance arises. Only three-fourths of 1 per cent of the potential development has taken place. Even that is too great. The Government is now insisting that the development of anthracite shall be greater. Is it going to insist, also, that the development of bituminous shall be greater? If so, is it going to take the position that the bituminous coal mines shall be run solely for the convenience of the miner on one side and the consumer on the other, completely ignoring the right of the operator to get for his coal, the full cost, plus the return of his investment and regardless of any profit?

These are pretty serious questions, but they must be faced some time. They may as well be faced now, when the coal question is under serious consideration, as at any other time.

We come now to the question of keeping the reserve coal actually in reserve until the time when it will be needed. It has been shown before that each anthracite mine should have a reserve of at least 9,000,000 tons. If the existing 270 mines should divide the reserve coal among themselves on a pro rata basis, they would each be compelled to control 18,520,000 tons. In other words their investment in coal land would be just twice what it is today. Their interest charge, therefore, would be just twice what it is. That would make their interest charge naturally 12 per cent, as compared with the present 6 per cent. Perhaps that would not be an impossible

burden to carry. However, it would not cut the price of coal.

But when we get into bituminous we get a figure that is absolutely staggering. It has been estimated that each bituminous mine should have 4,500,000 tons of coal in reserve, or enough to last it for thirty years. But if the existing mines—7,000 of them—should control the bituminous coal in the ground, each mine would have to have in round numbers 600,000,000 tons of coal in reserve, or 133 times what it has today. This piles up an interest charge per ton of bituminous production which no conceivable market price on coal can stand. Nevertheless, unless this bituminous coal is held in reserve, the bituminous operator is facing the danger constantly, that when his business becomes profitable he invites its destruction by inviting new competition to develop this reserve coal land.

The Government of the United States must sooner or later take seriously into account this whole question of its policy toward this reserve land of all coal. It must do so both for the simplification of the anthracite situation and for the solvency of the bituminous situation. It is a question which challenges the attention of the best thought in Congress.

The questions which these series of facts raise are:

Are all possible anthracite mines to be opened at once to the ruin of all existing mines and the dissipation of those reserves held for future generations?

Are the bituminous mines to be compelled always to meet the competition of 133 times the existing number of mines, regardless of the fact that there is no need now for 2,000 of those which exist?

If the operators themselves try to control this situation, they are instantly faced by a series of questions, equally as hard to answer.

For example; are they going to try to buy up this coal land? If they do, they must meet the furious opposition which the Reading Company has encountered for years because it tried to hold in reserve a portion of the anthracite coal deposit.

If not that, are they going to try to agree among themselves either to restrict production to current need, or so to divide the market there will be price cutting? If they do, they will run headlong into the Sherman Anti-Trust Law, which was enacted to prevent just such business conventions.

Shall they try to prevent new mines from entering the field by persuading the railroads to refuse to make physical connection with such new mines, or by refusing to supply them with cars? If so, they will find themselves violating the Elkin's amendment to the interstate commerce act.

Or are the coal operators going to try to control the situation by buying up the existing plants. If that is attempted, the "coal combination" will find itself facing the experience of the Pittsburgh Coal Company, which

at its inception took over the plants in the Pittsburgh district. In two years it found that those plants and their outputs had been duplicated by the reinvestment in other coal mines of the money which had been paid for the old ones.

Taking a look briefly and quickly at the whole situation, it must be apparent that the coal business, in its essential features, has not changed as a result of a period of war being inserted between two periods of peace. The essential facts of coal, which are determining, remain unchanged by the accident of the European war.

I am quite willing to admit that the coal business never should be the same as it was before. I must confess, however, that it cannot change much until the fixed conditions, which the trade confronts, can in some way be changed radically. Still, it is one thing to say that a situation should change; it is quite another thing to change it. Indeed, the problem is of such a character that the immediate and needed reform in the coal business is beyond the jurisdiction of the men who are engaged in the coal industry. That is, the coal problem cannot be solved until public policy touching the coal reserves has been outlined. There must, in my opinion, be a cooperative movement between the trade and the Government, first, to arrive at this public policy, and then to get a working plan under it.

This is a problem which one of these days will have to be solved. We might as well begin discussing it now.

Great Increase in Coal Cars Loaded

A report was received by the Director General from the Car Service Section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for the week ended November 30, 1918, as compared with the same period of 1917, a summary of which follows:

	1918	1917
Total cars bituminous.....	165,071	179,399
Total cars anthracite.....	30,041	37,027
Total cars lignite.....	4,133	4,733

Grand total cars all coal.. 199,245 221,159

A summary of reports for the week ended December 7, 1918, as compared with the same period of 1917, based on actual reports from most roads, but with the estimated results of some roads, follows:

	1918	1917
Total cars bituminous.....	185,755	198,121
Total cars anthracite.....	34,450	41,599
Total cars lignite.....	4,368	4,954

Grand total cars all coal.. 227,573 244,674

Total increase of 1918, up to and including the week ended December 7, over the same period of 1917, 590,715 cars.

GOLD PRODUCTION SHOWS
MARKED DECLINE SINCE 1913

Development of the Transvaal mines for the period 1913 to 1917 accounts for over 40 per cent of the total world output statistically recorded. Between 1900 and 1912 there has been a steady increase in the total annual output, the world production for the latter year being 83 per cent in excess of the output in 1900, the Federal Reserve Board points out.

For 1913, the output of the Transvaal mines for the first time shows a substantial decrease, which is also reflected in the total world production figures. During the first year of the great war the Transvaal gold output shows a further recession, which, together with decreases in the gold production in Australia and in minor countries, accounts for a shrinkage in output below the 1908 total. In 1915 the volume of gold production in South Africa, the United States, and Canada was unusually large, with the result that the total world output for the year (470.5 millions) is the largest ever recorded. During the following year the South African output shows an increased total, though the world production fell off by 16.3 millions, because of reduced operations in the United States, Russia and Australia.

In 1917 practically all the important gold-producing countries report considerable decreases in their output, the total for the year falling more than 20 millions short of the 1916 total. For 1918, shortage of the labor supply, high cost of materials, and the prevalence of the influenza in the principal mining sections are the main reasons given for the large decline in output for the year just ended.

DISTRICT FUEL REPRESENTATIVES
ORDERED TO CLOSE OFFICES

The United States Fuel Administration has requested all its district representatives to give all employes of their offices notice of the ending of their work, it has been announced.

These offices will cease their official functions as of February 1, except that between February 1 and 15 statistics and records to and including January 31 will be compiled and prepared for transmission to Washington headquarters, together with such other records as properly belong to the Fuel Administration.

Import Restriction on Iron Ore Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of iron ore has been removed, and that licenses will be issued, when the applications therefor are otherwise in order, for the importation of iron ore from any country.

This supersedes W. T. B. R. 308, issued November 11, 1918, as to low phosphorus iron ore from Spain, Sweden, Norway, and North Africa, and W. T. B. R. 359, issued December 7, 1918, as to calcined spathic iron ore originating in and coming from England.

Restriction on Chrome Ore Removed

The War Trade Board announced, January 15, that the restriction upon the importation of chrome ore or chromite has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation of chrome ore or chromite from any country.

Gold production of the world.

[Estimates of the Director of the United States Mint.

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
United States.....	\$79,171,000	\$78,666,700	\$80,000,000	\$73,591,700	\$80,464,700	\$88,180,700	\$94,373,800	\$90,435,700	\$94,560,000	\$99,673,400
Canada.....	27,890,500	24,128,500	21,336,700	18,834,500	16,400,000	14,610,400	12,023,900	8,382,800	9,642,100	9,383,200
Russia.....	20,145,500	22,850,900	22,533,400	24,632,300	24,803,200	22,291,600	19,426,600	26,664,300	28,052,200	32,381,300
South Africa:										
Transvaal.....	8,671,900	9,059,500	39,023,700	67,998,100	65,913,900	113,329,100	135,358,000	151,984,100	168,520,500	170,988,800
Rhodesia.....										
Australasia:										
Western Australia	73,498,900	76,850,200	81,578,800	89,210,100	87,767,300	85,926,500	82,391,400	73,677,700	73,327,300	71,007,900
Other Australia..										
British India.....	9,435,500	9,393,900	9,588,100	11,428,900	11,495,500	11,950,200	12,087,700	10,283,600	10,598,500	10,385,600
All other.....	35,773,000	41,481,200	42,676,900	40,266,000	40,242,700	41,359,200	46,241,900	48,964,700	60,105,600	60,267,100
Total.....	254,576,300	262,492,900	296,737,600	325,961,500	347,067,300	377,647,700	401,172,200	412,522,900	443,008,200	454,059,100

	1910	1911	1912	1913	1914	1915	1916	1917	1918 ¹
United States.....	\$96,299,100	\$96,890,000	\$93,451,500	\$88,884,400	\$94,531,782	\$101,035,700	\$92,590,300	\$83,750,700	\$68,463,500
Canada.....	10,305,800	9,762,100	12,648,800	16,598,900	15,983,004	18,934,971	19,235,007	15,200,000	14,782,007
Russia.....	35,579,600	32,151,600	22,199,000	26,507,800	28,586,392	28,586,392	22,500,000	18,000,000	15,000,000
South Africa:									
Transvaal.....	175,189,900	191,536,400	188,293,100	181,885,500	173,559,940	188,033,156	192,182,900	185,503,400	175,000,000
Rhodesia.....									
Australasia:									
Western Australia	65,470,600	60,184,200	26,514,900	27,165,700	25,457,691	24,015,188	21,941,000	20,130,900	31,000,000
Other Australia..									
British India.....	10,718,400	11,054,100	11,055,700	12,178,000	11,378,400	11,522,457	11,208,500	10,756,800	10,000,000
All other.....	61,826,400	60,359,300	69,751,700	66,496,600	69,806,033	53,938,417	56,751,800	56,188,800	50,000,000
Total.....	455,259,800	461,939,700	466,136,100	459,941,100	439,078,200	470,466,214	454,176,500	423,890,200	378,778,500

¹ Preliminary estimates of the Federal Reserve Board.

CALIFORNIA CHAPTER OF THE AMERICAN MINING CONGRESS, FORMALLY ORGANIZED

On January 15 and 16, the metal and oil producers of California met at the Palace Hotel, San Francisco, to organize the California Chapter of the American Mining Congress. There were present a total of 160 of the leading mining men of the state. Albert Burch, President of the California Metal Producers Association, presided, and G. M. Swindell, acted as secretary.

H. Foster Bain, Assistant Director of the U. S. Bureau of Mines, gave an interesting talk on the history of The American Mining Congress, reviewing the early work of the organization, which resulted in the creation of the Bureau of Mines, with Dr. J. H. Holmes, as Director, and advocated a concentrated effort to secure a Department of Mines and Mining, with representation in the President's Cabinet.

Bulkeley Wells, President of The American Mining Congress, was present, and in his address reviewed the more recent activities of the organization: The War Minerals Relief Bill, to give aid to chrome, manganese, pyrite, and other products, which promises to be of material benefit to the producers of war minerals; the work done by the Revenue Legislation Committee, which succeeded in securing in the Senate the adoption of six out of eight of their recommendations; the effort to secure for gold producers some relief from present conditions, which resulted in the appointment by the Treasury Department of a committee to study the situation and make recommendations. Mr. Wells is a member of that committee. Regarding the labor situation, Mr. Wells believes it folly to reduce wages, until the cost of living is changed. He urged for the Congress the hearty support of the mining men of the country, and asked that the officers be backed vigorously and promptly in the work they are doing.

Albert Burch, the presiding officer, told the meeting that he had known little about The American Mining Congress until a year ago, when, upon being in Washington and availing himself of its services, he found it invaluable in securing results. He called particular attention to the activities of the organization in securing \$1.00 per ounce for silver.

J. K. Lynch, Governor of the Federal Reserve Bank, stated that civilization and mining have gone hand in hand, and that mining is necessary to our high standard of civilization. He pointed out that the world is dependent on iron for progress; electricity is dependent on copper. From a bankers' standpoint, mining may be divided into four stages: prospecting, exploration, development, and production. When a mine is ready for production, it may be considered a manufacturing

business, and until this stage is reached, the banker is not interested. Mr. Lynch stated that the gold reserve in Federal Reserve Banks on January 3, 1919, was \$2,092,000,000—about 33 per cent of the gold in the country. The ratio of gold to credit in this country on June 30, 1918, was 1 : 5; at the end of the next fiscal year it is estimated at 1 : 2½. Only for the Federal Reserve Bank, the country would have been bankrupt during the war.

Frank B. Anderson, President of the Bank of California, at San Francisco, gave an intensely interesting address, at the luncheon on January 16, on "The Attitude of Bankers Toward Mining Investments."

T. A. O'Donnell, formerly assistant to the oil director of the U. S. Fuel Administration, in charge of production, told of the accomplishments of the American Oil Industry during the war. Mr. O'Donnell believes that every phase of the conflict was dependent upon petroleum production, which came in greater part from the United States. He pointed out that the Government here asked oil producers to cooperate, rather than forcing them, with the result that when oil producers, were asked to produce more oil, they responded by spending large sums of money in equipment and development, much of which is now useless. The oil output in 1918 was 3 per cent larger than in 1917.

T. A. Rickard, editor of the Mining and Scientific Press, advocated a publicity campaign for the work of The American Mining Congress, calling attention to the tremendous good which results from giving publicity to the operations of mining companies. Mr. Rickard believes that the war has brought home forcefully to the American people the great importance of the mining industry.

The meeting particularly advocated a campaign for a Department of Mines and Mining, and Judge John F. Davis discussed the necessity for this action in a thoroughly capable manner. D. M. Folsom discussed the fundamental relationship and dependencies of industry upon fuel, and asserted that peace has not altered this dependency.

Altogether it was a most satisfactory meeting, and the Chapter starts with the wholehearted backing of the most prominent mining men of California, and promises to be an unqualified success.

The following were elected as directors, and a meeting will be held, February 13, at which a governor, vice-governors, and secretary will be elected:

Directors for one year term: Andrew Carrigan, L. D. Gordon, M. H. Whittier, K. R. Kingsbury, and Clifford G. Dennis.

Directors for two-year term: Albert Burch, George W. Metcalfe, W. J. Loring, E. L. Doheny, and John Barneson.

Directors for three year term: F. W. Bradley, T. A. Rickard, J. H. Mackenzie, L. P. St. Clair and H. R. Gallagher.

Mr. Rickard asked to be relieved of the appointment, believing that he can render more useful service as a detached critic.

Mr. Rickard has written an editorial, which appears in the January 25 issue of Mining and Scientific Press, "The American Mining Congress," which so thoroughly explains the spirit of the meeting that we quote therefrom as follows:

"During the past week a California Chapter of the American Mining Congress has been organized under the auspices of the California Metal Producers' Association of San Francisco and the Chamber of Mines and Oil of Los Angeles. The meetings on January 15 and 16 in San Francisco proved an unqualified success, as was assured from the start because the affair had the wholehearted backing of the best men in our mining community. A report of the proceedings appears on page 128 of this issue. In due course we hope to publish the text of the principal addresses, which dealt with subjects of national interest. Mr. Albert Burch, the chairman of the Metal Producers Association, presides over the sessions with conspicuous success, due in no small degree to the esteem with which he is held by the fraternity of Western mining men. The Congress in recent years has been fortunate in its presidents; Mr. Walter Douglas has been succeeded by Mr. Bulkeley Wells, who was present and added largely to the interest of the occasion by the appropriately prominent part he took in the discussions. Mr. J. F. Callbreath, the secretary and chief organizer of the Congress, and to whom the success of its political activities at Washington are largely due, gave a most informant history of the organization, and, of course, took a guiding part in the business meetings. Our friends in the South were worthily represented by Messrs. G. M. Swindell, who acted as local secretary, and by Mr. T. A. O'Donnell, whose speech on the part that petroleum played in the war, was the chief feature of the dinner on Wednesday evening. One consequence of the convention was the new start given to agitation in favor of creating a Federal Department of Mines with a Secretary in the Cabinet. The campaign for this purpose was launched in an eloquent address by Mr. John F. Davis, a distinguished lawyer not without experience of mining. We hope to publish this address at an early date. Another important utterance was that of Mr. Frank B. Anderson, the President of the Bank of California, who explained the attitude of bankers toward mining enterprise in a weighty speech that was heard with eager attention and that our readers will find stimulating to serious thought. This brief summary of the convention will indicate to those not present that the proceedings were well organized, and unusually informing. One fact was unmistakable, namely, that the gathering of mine operators and mining engineers was thoroughly tired of being regulated, controlled, and disciplined by the halo-batted gentlemen at Washington. While willing to submit to the unpleasantness of wartime, they were looking forward to their accustomed freedom of initiative. Every expression of protest against unnecessary regulation after the war, elicited prompt approval, and any reference to the necessity for giving the customary scope to individual effort evoked loud applause. This fact is one that vigorous politicians—not to mention statesmen—will not disregard, for we believe it to be no mere local manifestation of feeling. In this as in other matters, the mining community in the nation. The experience of the war period has shown the mining community that it needs to be protected at Washington against ill-digested legislation, whether on the score of taxes and embargoes, or of regulations devised and executed by persons in control of the market. The committee sent to the national capital to protest

against sundry eccentricities of legislation have been assisted by Mr. Callbreath and his colleagues in a manner for which they have reason to feel grateful. Until recently, the Mining Congress has been supported mainly by the small operators, but now the large companies have decided to cooperate. For instance, in Arizona, the copper companies have agreed to contribute 10 cents per \$1,000 of annual production, the contribution being limited to a maximum of \$6,000 and a minimum of \$60 per company. This financial assistance is given without representation on the board of management, so that there is no danger of the big interests exercising undue control. The vote is still restricted to individual membership. It is now proposed to enlarge the activities of the Mining Congress, by organizing eight statistical and technical divisions, but we trust that the mistake of duplication already being made by the Geological Survey and the Bureau of Mines will not be imitated. If the Mining Congress should fail, it will be by reaching out unduly and trespassing on the preserves of the official agencies. We believe that the Mining Congress has a useful function to perform on behalf of the mining industry, and we trust that it will not endanger its effectiveness by undertaking to do too much."

CAPTAIN STEIDLE LOSES EYE WHILE LEADING MEN IN BATTLE

The many friends of Capt. Edward Steidle, formerly in charge of one of the mine-rescue cars of the Bureau of Mines, will regret to learn that during the bitter fighting preceding the signing of the armistice, Steidle, who had just recovered from a previous injury, was again seriously injured while leading his company in attack.

In a letter written at the base hospital in Paris to the chief mining engineer of the bureau, Captain Steidle says:

"November 1, while attached with my company to an attacking unit of marines, I received a second injury. I am progressing as well as can be expected, but have suffered the loss of my right eye. With proper medical attention and a refit of glasses, I expect to be in good working condition again in due course."

After stating that he has served on the line 75 per cent of the time he has been in France, he adds:

"It might be of interest to state that my major sent a dispatch rider to Paris, after my arrival here, inquiring whether I could return again to the regiment, stating that I was slated for a majority, and could accompany troops to Germany—my most ardent desire."

Federal Electric Sirens Approved by Underwriters Laboratories

Under date of October 11, 1918, the Underwriters Laboratories conferred approval upon all types of Federal Electric Sirens. This approval, of course, refers to the device itself and forms the strongest kind of evidence that the Federal Electric Siren is properly designed and carefully built, so that it takes its place among standard types of electrical apparatus.

**PETROLEUM PRODUCTION IN 1918
WAS 345,500,000 BARRELS**

The quantity of crude petroleum marketed from oil wells and field storage tanks in the United States in 1918 reached the record-breaking total of 345,500,000 barrels, as shown by preliminary estimates made by John D. Northrop, of the United States Geological Survey, Department of the Interior. This output is an apparent gain of 3 per cent over the former high record, 335,315,601 barrels, established in 1917. The output is apportioned among the major fields as follows:

Field.	1917.	1918.
Appalachian.....	24,932,205	25,300,000
Lima-Indiana.....	3,670,293	3,100,000
Illinois.....	15,776,860	13,300,000
Oklahoma-Kansas....	155,043,596	159,000,000
Cent. & No. Texas....	10,900,646	15,600,000
North Louisiana.....	8,561,963	13,000,000
Gulf Coast.....	26,087,587	21,700,000
Rocky Mountain.....	9,199,310	12,600,000
California.....	93,877,549	101,300,000
Alaska and Michigan.	10,300	.....
	335,315,601	345,500,000

The output in 1918 includes no less than 6,500,000 barrels of crude oil removed from field storage, but excludes drafts aggregating 20,500,000 additional barrels from stocks of pipe-line companies. The surface reserve of crude oil held by oil producers and pipe-line companies in the United States at the end of 1918 is estimated at 123,000,000 barrels, compared with 150,000,000 barrels at the end of 1917. These figures show that the demand for domestic petroleum in 1918 amounted to about 366,000,000 barrels. The exports of crude oil, most of it to Canada and to northwestern Mexico, aggregated about 5,500,000 barrels, leaving a total of 360,500,000 barrels available to supply domestic needs. This quantity was insufficient, however, and about 36,500,000 barrels was imported, nearly all of it from Mexico, to meet the domestic requirements, which amounted in all to about 397,000,000 barrels.

The increase in output was made in response to a steadily growing demand for petroleum, expressed in advancing prices for crude oil, which were stabilized, with governmental approval, at record levels during the closing months of the year. As indicated in the foregoing table, the most pronounced response to the stimulus of the war-time demand for petroleum was in the central and north Texas, north Louisiana, Rocky Mountain, and California fields, but the gain credited to the old Appalachian field, though moderate, is significant. The increase in the output of this field was due in large measure to successful drilling in Kentucky, particularly in Estill, Lee, Lincoln, Breathitt, and Allen counties.

In California the principal source of new production was the Montebello field, discovered in 1917 in Los Angeles county, which,

with the Casmalia district, in Santa Barbara county, and with the older districts in both the San Joaquin Valley and the coastal-southern divisions, apparently succeeded in establishing a new record for oil production in California, exceeding 100,000,000 barrels.

The gain in the Rocky Mountain field is credited to Wyoming and is ascribed in part to the Big Muddy field, in the western part of Converse county, in part to the drilling a few new wells of large capacity in the heart of the Salt Creek field, Natrona county, and in part to the results of providing marketing facilities for the Warm Springs field, Hot Springs county, and for the Pilot Butte-Maverick Springs district, in Fremont county. New and potentially productive sources of oil were proved in Wyoming in 1918, on Buck Creek, in Niobrara county, and on Rock River in the eastern part of Carbon county.

Credit for the gain in the north Louisiana field belongs almost wholly to the Pine Island district, in Caddo Parish, opened near the end of 1917, and extensively and successfully developed during 1918. Near the end of 1918 a new oil pool of apparent great promise, termed the Bull Bayou district, was opened in the southeastern part of De Soto Parish, about 3 miles south of the Crichton field.

Momentous developments that affected the future supply of high-grade petroleum in the United States took place in 1918 in the central and north Texas field, after petroleum had been discovered in considerable quantities near Ranger, Eastland county; near Caddo, in Stephens county; near Brownwood, in Brown county, and near Burkett, in Coleman county, in 1917. About sixty oil wells were completed during 1918, and at the end of that year the new field was credited with a potential capacity of 50,000 barrels of oil a day, though its actual capacity, limited by pipe-line facilities, was only about 18,000 barrels a day. The campaign of wildcat drilling, radiating from the centers named, extended over more than forty counties in northern Texas before the end of 1918, and will doubtless result in the opening of other pools of high-grade oil in 1919.

The decrease charged to the Oklahoma-Kansas field is accounted for by the failure of wildcat drilling to discover new fields comparable with the declining Cushing, Healdton, Eldorado, and Augusta fields. In Kansas new territory was opened in Butler county, north of the Eldorado field, and in Greenwood county, east of that field. In Oklahoma a productive pool, known as the Youngstown pool was developed in Okmulgee county, and strictly new oil territory was opened in Stephens county, several miles west of the Healdton district.

The diminution in the output of the Gulf field is due to the decline in the output of the Goose Creek pool, Harris county, Texas, and to the normal decline in that of the other dominant pools in that field. New pools of promise were discovered in the Gulf field in

1918 at West Columbia, Brazoria county, Tex., and at Big Hill, Matagorda county, Tex., though neither added materially to production in that year.

ITALY SUFFERS MORE FROM FUEL SHORTAGE THAN OTHER NATIONS

Italy, whose population as a whole was without coal for heating, and in large part without gas for cooking, for many months of the war period, was the worst sufferer from fuel shortage among the allied nations, according to the report of the commission sent to Europe by United States Fuel Administrator H. A. Garfield.

Switzerland, which now faces a severe shortage, managed throughout the conflict to obtain a considerable supply of coal from Germany, although under an agreement forced on her "upon disadvantageous terms," the report says. France is continuing to furnish to Switzerland the tonnage Germany had allotted from Alsatian fields. Germany was Switzerland's chief source of supply before the war.

Belgium, the commission found, should be able to produce immediately more coal than needed for its own consumption, since its industries were so thoroughly ruined during German occupation.

Representatives of the Italian Government, the commission reports, urge an annual national supply of 12,000,000 tons to meet actual requirements, drawing attention to the fact that "while the people may suffer privation without protest in war time," with the coming of peace a refusal to supply fuel "may give rise to serious disturbances."

The whole of this quantity would of necessity be imported, since Italy's only domestic fuel is a very poor grade of lignite. Under the spur of war needs, however, the production of this lignite was forced up to 2,500,000 tons in 1918, as against 700,000 tons before the war.

Italy was receiving but 7,000,000 tons of coal during the last years of the war, the report says, as against minimum necessities of 10,000,000.

During the first three months of 1917 a total of 120 out of 128 gas plants in Italy were shut down, leaving only those in the larger cities in operation, the commission found. From April 1, 1917, to November 1, 1918, consumers were allowed gas during an aggregate of only four hours a day for cooking purposes. During 1917 and a part of 1918 textile industries, paper mills, glass factories, and other non-war industries were cut down to less than 10 per cent of their normal requirements.

The report expresses some doubt as to whether Great Britain will be able, "in view of conditions at home and the heavy demand at home and elsewhere," to resume the annual exports of some 8,500,000 tons to Italy maintained in pre-war years.

Under date of November 18, 1918, and while the Fuel Administration commission was in Rome, the government established a monopoly over coal and several other commodities, including petroleum, sugar, coffee and tea. It was said that the necessary approval by the Chamber of Deputies was anticipated. The creation of this monopoly, the commission points out, will "greatly change the conditions surrounding any prospective coal trade of the United States with Italy, as well as existing trades in such commodities as petroleum."

Discussing exports from the United States to Italy, the report says that, "due in part to war conditions and in part to a coal strike in Great Britain, they rose from 82,000 tons in 1913 to 287,000 in 1914, to 1,714,000 in 1915, and to 1,040,000 tons in 1916." These figures, the report states, are from Italian governmental sources, and are smaller than those of United States records.

After 1916 imports from the United States slumped until, for the first nine months of 1918, they amounted to but 9,700 tons. This was due, says the report, to prohibitive freight rates and shortage of ships, adding:

"The subject of importation of American coal is here, as elsewhere in Europe, almost entirely, a question of shipping and freight rates."

Permits Required for Certain Smokeless Shipments

To correct a slight misconception of its order of January 16 regarding the removal of restrictions on shipments of bituminous coal and smokeless coal by way of the docks on Lake Michigan and Lake Superior, the United States Fuel Administration pointed out that this order still keeps in effect a provision that "low volatile smokeless coal shall not be sold or shipped from docks on Lake Michigan and Lake Superior for use by domestic consumers unless a permit for such sale or shipment shall first have been obtained from the district representative of the United States Fuel Administration, in charge of said docks."

The order also declared valid all permits heretofore or hereafter obtained from the district representative in charge of said docks, under the proviso of the order of January 2, 1919, although granted without the approval of the Federal Fuel Administrator.

Restriction on Copper Ore Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of copper ore and copper concentrates (W. T. B. R. 428, issued December 19, 1918) has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation, from any country, of copper ore and copper concentrates, regardless of the copper content thereof.

COLORADO CHAPTER HOLDS ITS ANNUAL MEETING

With an attendance far exceeding any meeting of mining men in Colorado for some time, the annual convention of the Colorado Chapter of The American Mining Congress was notable this year for the fine spirit of fellowship evinced and the practical work accomplished.

The convention lasted three days, beginning January 2, and from every mining county in Colorado operators, mine managers and mining engineers assembled in response to the call of the Colorado Chapter and the Colorado Metal Mining Association. The meeting marked the close of the first year of work of the chapter, organized by Western Secretary Burns in November, 1917, and the report of Secretary Tomblin, in behalf of the board of directors, showed a year of accomplishment and expansion.

The resignation as governor of the Colorado Chapter of Bulkeley Wells, now President of The American Mining Congress, was made public, and Robert S. Ellison, vice-governor of the chapter, representing the oil industry, was elected governor to succeed Mr. Wells. Mr. Ellison, formerly of Colorado Springs and closely allied with both metal and oil producers, is one of the most popular and active of the younger business men of the state.

J. F. Welborn, president of the Colorado Fuel and Iron Company, and Samuel D. Nicholson, president of the Western Mining Company, of Leadville, were elected vice-governors. M. B. Tomblin, secretary, was elected to the joint secretaryship of the Colorado Chapter and the Colorado Metal Mining Association.

President Wells and Secretary Callbreath, of the Congress, were present and participated in the program, speaking on the gold situation, national legislation, and the plans for enlarged work of The American Mining Congress.

The Colorado meeting was a real convention filled with live discussions and laying the ground work for a big year ahead of the chapter. Secretary Tomblin had assembled many of the state's best speakers, and serious discussions, some of them a bit lively, were had of such subjects as freight rates for ores and supplies, blue-sky laws and business promotion, legislation affecting the Colorado mining industry, state compensation insurance, and so forth.

A subject covered by the program was "County Organization," a phase of chapter work often neglected by the state organizations, but found to be quite successful in Colorado. W. B. Lewis, president of the Boulder County Mining Association, a live organization of 500 members, told the story of how the association does its work and the fine effect, not alone on the industrial and labor conditions, but the social conditions of

the county. It was a story of great human interest, showing what possibilities are in store for the chapters which adopt and will follow up the plans worked out in Colorado.

In his address to the delegates Secretary Callbreath stated that he believed Congress might be induced to cooperate in looking forward to the development of the oil shale industry through an investigation of its by-products. He believed there might be a similar development of by-products from coal. The convention afterward adopted resolutions urging appropriations to be expended by the Bureau of Mines for these investigations.

Important resolutions covering both national and state legislation were adopted.

Editorially, the Daily Mail Record, of Denver, congratulates the officers of the chapter on the fact that all mining interests of the state, from the largest operators to the least important, are now represented in the Colorado Chapter.

FRENCH IN NEED OF IRON AND STEEL FROM AMERICA

Newly opened channels for the American iron and steel industry are indicated by advices from the French Ministry of reconstruction.

The War Trade Board has received notification that the French Ministry of Reconstruction, Bureau of Raw Materials, will consider favorably applications to import quantities of iron and steel. In obtaining import licenses it was stated that American firms or their French agencies will be given the same consideration as French firms.

Fuel Saving in Clay Products

Statistics of results obtained in fuel conservation by 4,000 clay products companies representing practically the entire industry have now been compiled by states and show an actual total fuel saving in this industry alone of 1,846,996 net tons during the first six months of 1918.

The curtailments of fuel in the various branches of these industries were the result of voluntary agreement on the part of the manufacturers after conference with the U. S. Fuel Administration.

Historian for Fuel Administration

George E. Howes has been appointed Historian of the United States Fuel Administration.

By the terms of the order authorizing his appointment, "all matters pertaining to the property and records of the administration are under his control."

Mr. Howes has been, since February last, a member of Dr. Garfield's personal staff, acting as assistant executive secretary to the United States Fuel Administration.

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COURT UPHOLDS RATIONING OF NATURAL GAS AT LOUISVILLE

The first step that has been taken to restrain in court the efforts of the United States Fuel Administration toward equitable distribution and conservation of the waning supply of natural gas has met with defeat under a decision rendered by Judge Samuel B. Kirby in the Jefferson Circuit Court at Louisville, Ky.

This court overruled the motions of the city of Louisville and the Rev. J. M. Maxon for a temporary restraining order to enjoin the Louisville Gas and Electric Company from putting into effect an order of the Fuel Administration rationing the supply of natural gas to consumers in Louisville.

The order provides that each consumer shall be permitted to burn not to exceed 1,000 cubic feet per day unless permits for additional amounts needed are obtained from the federal fuel administrator for Kentucky. It also pro-

vides that "whenever the supply of natural gas is in excess of the quantity required to fill the demands therefor within the limit hereby imposed the companies may make a pro rata delivery of such excess to their consumers."

During the severe weather of last winter there was a demand considerably in excess of the supply which flowed through the main leading from the West Virginia fields to Louisville. During the summer the city attorney of Louisville and others requested the Fuel Administration to take action which would prevent suffering from shortage of supply in case of another severe winter. The order to accomplish this result was issued after a conference held at the offices of the Fuel Administration in Washington on October 10 and 11.

This conference was attended by more than a score of leading officials interested, prominent citizens of Louisville, and well-known experts in natural gas affairs.

It was shown that 8 per cent of the Louisville consumers use 50 per cent of the entire quantity of gas consumed in the city. For example, in the month of January, 1918, one residence used over 500,000 cubic feet, another over 400,000 cubic feet, several others over 300,000, and seventy-eight residences from 100,000 to 200,000 cubic feet each. Ninety-six and one-half per cent of the consumers used an average of less than 1,000 cubic feet a day each, or about 30,000 cubic feet a month. The number of consumers using more than an average of 1,000 cubic feet a day was only about 1,500.

November Petroleum Analysis

The slight increase in the quantity of petroleum run from wells and producers' field storage tanks to market in November, 1918, from the Central and North Texas and Rocky Mountain fields failed to compensate for the loss, in part seasonal, chargeable in that month to the other fields enumerated, and the result was a net loss of 4.8 per cent compared with October, 1918, and of 1.3 per cent compared with November, 1917.

The quantity of crude oil marketed in November, 1918, failed to keep pace with consumption, which was greater by 2.3 per cent than in October, 1918, and by 5.6 per cent than in November, 1917.

Although moderate additions were made to stocks of petroleum in November, 1918, in the Central and North Texas, North Louisiana, and Rocky Mountain fields, the total surface reserve of crude oil in the United States, exclusive of California, was reduced during that month by about 3,500,000 barrels. On November 30, 1918, stocks of petroleum in the fields to which this summary relates had been depleted to the extent of about 25,000,000 barrels compared with the quantity in storage at the end of November, 1917.

The foregoing was prepared by J. D. Northrop, of the U. S. Geological Survey.

THE PROBLEM OF PROBLEMS; THE FUTURE OF LABOR AND CAPITAL

By EMMET D. BOYLE, *Governor of Nevada*

In the multiplicity of problems confronting the governments of the world, the nation and the states today, it may be said that the problem of establishing proper social and economic relationship between employer and employee is at once the most urgent and the most difficult.



GOV. EMMET D. BOYLE.

There is no occasion to refer, except in passing, to the history of industrial relations in America. Capital long since combined to correct the proven ills of unrestricted, cut-throat competition. When these combinations tended to be viciously monopolistic in character the pressure of public sentiment brought into play restrictive laws, many of them over-reaching in their effect, but all possessed of the saving grace of protection to the American ideal of individual incentive. With combinations in industry came combinations of wage-earners, and the faulty vision of big business which invited rebuke in the form of restrictive legislation, has been matched by the faulty vision of workingmen who, in the pioneer days of the labor movement, sought to obtain their ends by unjustifiable means; who followed false prophets, and who injected unsound prin-

ciples into their negotiations, conducted only too often by tactless and sometimes venal leaders.

Today industry is organized in part. While it can hardly yet be fully absolved from the charge of improper interference here and there with orderly processes of government and trade, we must admit, and cheerfully so, that intelligence, which is another name for morality, has superseded the sandbag which, within the memory of living men, was used by "Business" so ruthlessly on the individual and the government alike. With this change in heart has come a relaxation of public pressure, and a consequent letting down in general public regulation.

Likewise, labor is organized in part. The American Federation of Labor has, on the theory of the survival of the fittest, become the spokesman of intelligent organized labor in America, and has injected a sound philosophy in the principles of the trades crafts to which it speaks.

The Railroad Brotherhoods, comprising the great majority of the train service operatives throughout the United States, have earned recognition by the public because of the intelligence of their direction. Combined in these groups are, perhaps, two and one-half million of the workers in America, all of whom are committed to a stable policy in contractual relations with employers. Conspicuously, partisan entanglements are avoided by these great organizations. They are attached to no party and inoculated with the virus of no false political creed. On the record, I make the assertion that the American Federation of Labor has stood consistently as the most practical and powerful single influence in the western hemisphere, tending to divert the vision of workingmen and women from the alluring prospects supplied in socialistic theory to the more practical aspect of social life to be found in our true national ideals.

Passing the question of nationalization of the agencies of control for the moment, I think that I am justified in saying that, in general, organization tendencies in all industrial groups were proceeding in the right direction in the period which preceded the war, in the sense that the elements of decency and regard for the rights of others were appearing in more pronounced degree both in capital and in labor combines.

But the cessation of hostilities has set up potential elements of disruption at home. Overnight, following the signing of the armistice, the business of war—the nation's one paramount industry for nearly two years—ceased as far as utility was concerned.

Statisticians of the Department of Labor estimate that there may be as many as five million of these war workers released, and it is obvious that they will be released in the near future.

Among the great masses of the American

people, the Utopian thought of Russia, now struggling for practical expression there in a typical atmosphere of ignorant and brutal revolution, will find no welcome. Yet radical groups which have been troublesome in America are ready to seize upon anything to stimulate their activities among the discontented masses, and experience has proven that they succeed measurably when conditions are such as those which we have at this time reasonable cause to fear.

The Spartacus group in Germany represents the Bolshevick element there. France has in her masses a powerful socialist group. The plausible and alluring arguments of this ultra-radical European political faction will touch only relatively few of our people, yet it cannot be gainsaid that this foreign political disease is contagious.

Coming nearer home, let us consider the attitude of the working masses of England. There, the British Labor Party—representing a combination which might be likened to that of the American Federation of Labor and all other organized labor groups with the political socialists in our own country—is conceded by students of the situation a representation in parliament of as many as one hundred seats in the total of six hundred and seventy in the House of Commons. Its demands include a universal minimum wage; insurance against unemployment; democratic control of industrial methods, through participation by the workers in such control "on the basis of common ownership and the means of production" and "equitable sharing of proceeds among all who participate in any capacity in production; state ownership of lands; the nationalization of railways, mines and electric power, canals, harbors, roads and telegraphs, and expropriation of industrial insurance companies; government control of all industries bearing directly on the cost of living; the practical extension of

small incomes, and for the taxation of large incomes on a plan which does not stop short of a capital levy to care for the war debts of the nation."

The program of American spokesmen of labor appear very modest indeed, compared with these demands of our British brothers. The American Federation of Labor proposes now only the extension of the eight-hour day principle; the right of workers to bargain collectively; the intensive organization of the unskilled workers, and the fundamentally sound proposition that an extension of opportunity for intercourse and exchange of viewpoints between workers and managers be provided forthwith. The Department of Labor emphasizes the importance and urgency of the last-mentioned proposal and does so, I think, with clear vision of industrial needs and with the constructive statesmanship which follows such vision.

In the confusion following the cessation of hostilities, with its attendant uncertainties as

to the immediate future, came, in advance of any diagnosis, the usual avalanche of prescriptions of economic nostrums aimed to cure our potential industrial ills. It became apparent that emergency trade bolsters and restrictions favorably affecting the prices of American products and manufactures would have to be withdrawn. Seeing no immediate and practical plan to force down prices on commodities and manufactures other than those produced by themselves, employer groups throughout the country began a noisy clamor for the immediate reduction of wages as a precedent to the downward course of prices generally. It was alleged that the wage factor in American production constituted fully 70 per cent of the value represented in the salable product, and the whole structure of excessive prices was upheld by immoderate compensation exacted by workers over the war period. Mr. Gompers, president of the American Federation of Labor, joined by the Department of Labor and individual wage spokesmen, replied in no uncertain terms that labor would resist any attempt to interfere with wage scales and hours, and these declamations brought forth an eager and spontaneous condemnation from extremists on the other side of the question, together with an outspoken presentation of the theory that a "show-down" with labor was imminent." In certain financial groups the argument was advanced shamelessly—by lesser lights in the world of business and industry, it must be confessed—that deliberate and organized curtailment of production would effectively starve the insolence out of the new arrogant wage-earner. Happily, this inhuman, not to say insane, policy found no favor in the eyes of the real leaders in American industry. Particularly refreshing is the prophecy of Mr. Charles Schwab that labor is inevitably destined to share directly in the control of all industries; that of July Gary, of the United States Steel Corporation, that his company contemplates no reduction in wages, and the expressions of many others that the downward deformation of the wage curve must be preceded by readjustments in the other factors of production.

In this connection it is interesting to note just how labor (treated for the purpose of immediate argument as a commodity) did capitalize its opportunity during the war.

It may smack of the academic at this time to attempt to analyze the causes underlying the upward trend of prices since the inception of hostilities in Europe. It is necessary, however, to say that the insatiable demand for material and men during the past two years does not account wholly for the prices in all commodities now prevailing. In the case of most materials the intervention of regulating machinery prevented the rise of prices to even higher levels than those actually attained. It is interesting to note that steel, coal, wheat, cotton, and the bulk of the big raw product tonnage rose to figures averaging more than

120 per cent advance over pre-war prices. Elaborate data collected by the Bureau of the Census, by the Department of Labor, and by private statistical bureaus proved that the cost of living, so called, reached an average over the whole country of more than 60 per cent increase over normal. These increases would have been greater in the absence of control agencies inaugurated by the Government. Nor was, perhaps, the law of supply and demand alone at work in this business.

Unquestionably, the wage-earner in 1918 found himself possessed of an unusual sense of security in his employment. From the pre-war conditions, when from 1,500,000 to 2,000,000 workers were throughout every year unemployed, and when greater numbers suffered the effects of broken and casual employment because there were not jobs sufficient to employ all, the country went to a condition in which men were everywhere in demand. No devices were installed to prevent the operation of the same processes of control on the labor element in production as were applied in other cases. The law of supply and demand might have had full swing had labor pressed to the full its new-found advantage.

As a device to enforce compliance with the terms of "hours-of-labor" agreements and laws, organized wage-earners have secured generally the adoption of the "time and a half for overtime and double time for Sunday work" principle in the larger industries. When shipbuilding began on a colossal scale, together with a production of armament and munitions, the Government found itself unable initially to enter into contracts with employers because of the uncertainty of the markets on any basis other than the so-called "cost-plus" plan. Great drafts were made on the labor market everywhere. Tremendous competition for labor sprung up between individual contractors. It was no concern to them, under a cost-plus contract, what sums of money workmen were paid for their services, and recruiting by the agents of one contractor in the labor ranks of another became common, serving to bid up certain wage scales to inordinate figures. In part, this was corrected by the activities of the War Labor Board, but conspicuous instances of exceptional pay secured by workmen under these conditions over the war-time period are uppermost in the minds of the public and tend to blind us to the true facts in the case. Statistics carefully compiled by governmental agencies throw new light on the situation. In the thirteen principal cities in the country union wage scales since 1907 have increased from a low instance of 9 per cent in New Orleans to 38 per cent as a high instance in the Pittsburgh district. These figures are based on the contracted hourly or weekly wage on the contracted scale of hours. They do not take into account, as I interpret them, extra pay derived from overtime work. Most illuminating of

all of the data is that which compares the present purchasing power of the union wage throughout the United States as measured in food at the present price of that element in the cost of living with the same conditions in 1907. This data proves conclusively that the advance in the price of commodities which men must buy to live increased in much greater proportion than did the compensation of the same men. Rates of wages per hour advanced from a relative of 90 in 1907 to 114 in 1917, an increase of 27 per cent. Retail prices of necessary commodities advanced from a relative of 82 in 1907 to 146 in 1917, an advance of 78 per cent. It is obvious from government statistics that the wage and hourly scale referred to by the Department of Labor and by Mr. Gompers constitute in purchasing power today only 70 per cent of the earning capacity of the workmen in the same craft ten years ago. From this it will be deducted that the wage scale still lags far behind the scale of prices reached by the commodities which determine standards of living for the worker. To go further with statistical matters of interest in the study of this subject, approximately \$3,000,000,000 were collected from industries during the year period ended June 30, 1918, as a proportion of profits from industries in excess of normal pre-war earnings. What proportion of the total excess profits of the country is represented by these figures, I have no means of determining with precision. A certain familiarity with the law, its extension and its operations justify the assumption that not more than 40 per cent of the actual excess profits were absorbed in taxes over the period named. On this assumption, not less than \$7,500,000,000 was earned by industry of the United States in excess of normal earnings, affecting thereby the distribution of the burden of the cost of conducting war upon the whole mass of the people. The laborer paid his fair part in this by virtue of the differential between his wage increase and the increase in the cost of living. Likewise in this connection the Bureau of Census and personal investigation reveals the fact that the ratio of wages to the total aggregate cost of production, distribution and sale is on the average more nearly 40 in each 100 parts than the 70 so frequently referred to by the advocates of immediate wage reductions.

If a solution of the problem is to come at all, it must come by cooperative consideration of the problem.

The labor problem of today is "the problem of problems" confronting every government. It is a problem with which is inevitably linked the whole question of human advancement. It is no longer a matter to be left within the states to the casual and mediocre appointee. It deserves personal consideration along practical, constructive lines at the hands of every chief executive. It offers opportunity for service which carries with it unparalleled pos-

sibilities of reward in the form of rapid approach to what should be the ideal of every government—a happy, harmonious, and prosperous people.

BITUMINOUS PRODUCTION FALLS BELOW 10,000,000-TON MARK

The production of bituminous coal in the week ended January 18, is estimated by C. E. Leshner, of the Geological Survey, at 9,943,000 tons, a decrease of 423,000 tons, or 4 per cent compared with the week of January 11, but an increase over the same period of 1918 of 16.5 per cent. The daily average in the week of January 18, 1919, is estimated at 1,657,000 tons, compared with 1,422,000 the same week of 1918 and 1,738,000 tons in 1917. Production in January, 1917, was not hampered by storms such as were encountered in January, 1918, nor by lack of market as this year, as many consumers are using coal from storage accumulated last summer and production is probably less than current consumption.

The estimated production of bituminous coal from April 1, 1918, to date, is 476,563,000 net tons, an increase of nearly 36,000,000 tons or 8 per cent over the corresponding period of 1917-18.

Estimates of the production of Pennsylvania anthracite show continued improvement in the output which, for the week of January, 1918, is 1,786,000 net tons, compared with 1,651,000 tons the previous week and 1,719,000 tons the corresponding week of 1918. Although production during the coal year to date is more than 1,500,000 tons less than the corresponding period of 1917-18, the current needs of the country for anthracite are apparently being fully met, because of the careful distribution of domestic sizes by the Fuel Administration and the warmer weather this winter compared with last winter.

Lack of business continues to be the limiting factor affecting production of bituminous coal, the average loss of operating time from this cause being reported as 15.5 per cent or nearly one day a week. Every district, except Alabama and Westmoreland, Pennsylvania, reported loss of time because of no market in the week of January 11, the percentage ranging from a few tenths in the eastern fields to 64 per cent, or four days a week, in southern Ohio. The only districts reporting running time of 90 per cent or greater were Central Pennsylvania, Cumberland-Piedmont, Maryland and the far western fields.

Comparison of the summaries for this year and last show the great change in conditions. In December, 1917, and January, 1918, the limiting factor was transportation disability, with car shortage accounting for loss in working time of from 10 to 25 per cent, and no loss because of lack of demand. At the present time losses reported because of car

shortage are insignificant and no market is the limiting factor. Labor troubles and mine disability in the two years were approximately the same.

Shipments of coal to New England in the week ended January 18, both by all-rail and tidewater, increased over the week ended January 11. Baltimore was the only port to show a decrease.

Shipments through rail gateways were nearly 116,000 net tons, compared with 106,000 tons the week of January 11 and 195,689 tons average weekly April 1, 1918, to January 18, 1919.

Tidewater shipments were 195,000 tons, compared with 149,400 the week of January 11, and 321,565 tons average for the coal year to date.

Bituminous coal dumped at North Atlantic ports in the week ended January 18, was 706,000 net tons, an increase compared with 561,565 tons the week of January 11, of 144,500 tons or 26 per cent. Baltimore recorded a decrease, but both New York and Philadelphia and Hampton Roads had substantial gains.

The production of by-product coke in the week ended January 18 was 553,610 tons, an increase over the week of January 11 of nearly 26,000 tons, or 5 per cent. This increase was due, in part, to increased capacity, and in part to better demand for coke and repaired plants. Increase in capacity were reported from Pennsylvania, where additional ovens were operated at the New Clairton plant, and in Colorado and at Youngstown, Ohio. The percentage of capacity reached in the week of January 18 was 83.9 compared with 81.0 per cent the previous week. Various reasons were assigned for the increase from 4.5 per cent to 7.7 per cent in capacity lost for other causes, among others delay occasioned through transportation difficulty in getting empty cars placed for loading.

NO ALSACE POTASH UNTIL JUNE, AT LEAST, SAYS BOARD

France will be unable, at least until April, to ship potash from the potash mines of Alsace. The War Trade Board announces that it has received authentic and official information to that effect from the French High Commission in the United States. These advices further indicate that for the next few months practically the entire potash output of the Alsatian mines will be urgently required for agricultural purposes in France.

It is the view of the War Trade Board, based upon this information, that even under the most favorable circumstances, no potash from Alsace could be available in the United States for agricultural uses before June, 1919, and that, therefore, it will be necessary that the United States rely entirely upon its domestic potash production for the coming spring season.



MAJ. J. M. MOREHEAD.

Who did notable work in Washington during the war as Chief of the Coal-Gas Products Section of the War Industries Board.

MINE RESCUE CARS HELP DURING INFLUENZA EPIDEMIC

The following letter to the chief mining engineer of the Bureau of Mines from D. Harrington, is self-explanatory:

"While recently at Butte the crew on Car 5 informed me that for the past several weeks the influenza epidemic had been so bad that the ordinary car activities have been almost totally curtailed. However, the shortage of doctors and nurses in the Butte district and the severity of the epidemic in Butte, which has had practically three times as many deaths per 1,000 inhabitants as have occurred in Denver, has given the Bureau of Mines and other men trained in first aid an opportunity to help when their help was most needed. Mr. Boardman of the Anaconda Copper Company, Mr. Schoning of Car 5, as well as Mr. Sparks also of Car 5, together with about ten or twelve others trained in first aid and mine rescue, devoted themselves for about two weeks to nursing influenza patients and towards taking helpless men, women, and children from rooming houses, cabins, etc., in the Butte district to the hospitals.

"The Anaconda Copper Company devoted one of their two ambulances to this work and

for several days at a time the first-aid men were employed in the hauling of patients from their homes and living places to the hospitals. However, the soldiers later on got into this work and at the present time the first-aid men have been relieved. Nevertheless, the work performed by the first-aid men in Butte has been of an exceptional character, and Mr. Boardman, Mr. Schoning, and Mr. Sparks and others certainly deserve credit for work done."

CLAY PRODUCTS INDUSTRIES

SAVE 1,381,000 TONS OF COAL

Official reports from the clay product industries, covering the first six months of 1918, show a saving of 1,381,000 tons of coal, resulting from the orders issued by the United States Fuel Administration restricting the amount of fuel to be used by plants in this industrial group. The restrictive orders were made necessary in order that essential war activities might not suffer for an adequate supply of fuel.

When final compilations are made on the basis of complete returns officials are confident that the total saving will approximate not less than one and a half million tons for the half-year period in these industries. Present reports indicate that under the orders curtailing the fuel supply of this industry, which became effective April 13, last, there was effected 37 per cent reduction in the normal amount of coal consumed.

The figures announced are of particular interest inasmuch as the curtailment orders were so worded that plants were permitted to burn their allotment of fuel at any time during the year and many concerns chose to operate at full capacity until their fuel allowance was consumed and then close down entirely. It is apparent, therefore, that had the war continued and the necessity for curtailment remained, the figures for the last half of the year would have revealed a very much greater saving.

Fuel Bureau of Labor Will Continue

The Bureau of Labor of the United States Fuel Administration will continue to function until the proclamation of peace.

Under an agreement published July 23, 1918, all labor questions pertaining to the coal mining industry were placed definitely under the jurisdiction of the Fuel Administrator, this arrangement having the sanction of the Secretary of Labor and of the United Mine Workers of America. The agreement included the provision that any dispute failing of settlement between the parties at interest must be submitted to the Fuel Administration for final disposition without stoppage of work.

ANALYSIS OF COAL AND
COKE EXPORTS FROM THE U. S.

Just at this time, when a Coal Export Association is being formed, there is particular interest in information with regard to our present exports. An idea may be obtained from the following statement taken from the figures of the Bureau of Foreign and Domestic Commerce covering exports of anthracite and bituminous coal and coke, by customs districts and countries, during October, 1918:

Customs districts and countries.	Anthra- cite, tons.	Bitumi- nous, tons.	Coke, tons.
Me. and N. H.—			
To Canada.....	66	19	138
Vermont—			
To Canada.....	1,570	12,391	326
Massachusetts—			
To Canada.....	37	...	...
N. Foundland..	6	...	...
St. Lawrence—			
To Canada.....	132,136	218 569	2,906
Rochester—			
To Canada.....	82,427	90,049	338
Buffalo—			
To Canada.....	244,399	289,894	52,928
New York—			
To Canada.....	11,565	...	...
Dutch W. I....	...	1,030	...
San Domingo..	...	15	...
Bermuda .....	...	...	100
Guatamela ....	...	...	2
Danish W. I...	...	...	2
Argentina .....	...	...	94
Venezuela .....	...	...	5
Philadelphia—			
To Cuba.....	1,957	...	...
Danish W. I..	...	426	...
Brazil .....	...	409	...
Maryland—			
To Cuba.....	...	5,103	...
Brazil .....	...	2,615	...
Peru .....	...	...	1,584
Virginia—			
To Bermuda.....	...	538	...
Panama .....	...	17,605	...
Mexico .....	...	1,639	...
Other Br. W. I.	...	3,960	...
Cuba .....	...	79,489	69
Danish W. I...	...	1,983	...
Dutch W. I....	...	2,138	...
French W. I...	...	1,170	...
San Domingo..	...	1,340	...
Brazil .....	...	35,437	...
Chile .....	...	22,419	...
Uruguay .....	...	10,121	...
South Carolina—			
To Cuba.....	...	2,500	...
Uruguay .....	...	3,711	...
Georgia—			
To Cuba.....	...	1,450	...
Florida—			
To Cuba.....	...	1,009	...
Mobile—			
To Cuba.....	...	300	...

Customs districts and countries.	Anthra- cite, tons.	Bitumi- nous, tons.	Coke, tons.
New Orleans—			
To Br. Honduras...	...	1	2
Guatemala .....	...	51	...
Honduras .....	...	240	...
Nicaragua .....	...	251	...
Chile .....	...	7,500	...
Mexico .....	...	...	47
Sabine—			
To Mexico.....	5	...	...
San Antonio—			
To Mexico.....	197	592	5,819
El Paso—			
To Mexico.....	210	4,714	3,729
Arizona—			
To Mexico.....	...	12,215	9,872
Southern California—			
To Mexico.....	3	6	...
San Francisco—			
To Salvador.....	1	...	5
Washington—			
To Canada.....	...	280	154
Chile .....	...	6,483	...
Alaska—			
To Canada.....	...	3	...
Montana & Idaho—			
To Canada.....	...	42	...
Dakota—			
To Canada.....	...	1,115	58
Duluth & Sup.—			
To Canada.....	...	1,348	48
Michigan—			
To Canada.....	1,351	105,593	19,248
Ohio—			
To Canada.....	8	940,926	21,323
Total	456,029	1,888,801	118,796

Loading of Coal

A report from the Car Service Section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for the week ended January 11, 1919, as compared with the same period of 1918, is as follows:

	1919.	1918.
Total cars bituminous.....	177,327	184,075
Total cars anthracite.....	31,971	36 363
Total cars lignite.....	4,417	5,204

Grand total all cars coal.. 213,715 225,642

A summary of reports for the week ended January 18, 1919, as compared with the same period of 1918, based on actual reports from most roads, but with the estimated results of some roads, follows:

	1919.	1918.
Total cars bituminous.....	160,157	148,773
Total cars anthracite.....	34,876	31,889
Total cars lignite.....	4,081	5 081

Grand total all cars coal. 208,114 185,743

Total increase of 1918 and 1919 up to and including week ended January 18, 1919, over the same period of 1918, 555,872 cars.

ENGINEERS TELL OF DESTRUCTION OF FRENCH MINES IN LENS REGION

How the retreating Germans wrecked the rich coal mines of Northern France was described in a report to United States Fuel Administrator Harry A. Garfield, by a special commission sent by the Fuel Administration to study conditions abroad. Three years, the report said, is the French engineers' estimate of the time required to efface the devastation enough to permit full production. The great reserve stocks of coal which had been built up in France are gone, and even the stocks of public utilities are at the danger point. With an apparent necessary minimum of 60,000,000 tons a year, France has been getting along in wartime on 40,000,000 tons, enduring severe privations, and is in great need of relief.

Dynamite and the oxy-acetylene torch completed demolition of the mines in the Lens region, previously well under way through shell fire. Where the mines were within French lines, mining operations were carried on only at night amid scenes of utter desolation. Returning members of the commission said that in Lens, no house rose above the first story, and the earth was churned for miles, until the underlying rock stratum was mingled with it. At Lens, the mine shaft was found only after careful search.

Tales of wild underground combats were brought by returning members of the mission. In one instance, where workings of two mines opened into each other, the Germans sent parties down one shaft to destroy the workings in the hands of the French. Every French survivor of the battle in the black caves a thousand feet underground, received the Croix de Guerre.

Of the territory around Lens the report said:

"The conditions varied from complete demolition to partial destruction of surface structures. Thus the operation at Lens was completely razed, nothing remaining but a heap of debris. The shaft was located with difficulty and is filled with wreckage. Not a structure remains standing in Lens and at the time of our visit there was no living inhabitant. The desolation must be seen to be fully realized. The Courrieress mine east of Lens has been somewhat damaged by shell fire, but much more by dynamiting and the use of oxy-acetylene gas flames on the part of the Germans at the time of their withdrawal. Practically all of the other mines visited had suffered comparatively little from shell fire, and been worked by the Germans until shortly prior to their departure, the damage consisting of burning or dynamiting steel towers, tipples and other structures and machinery, and of such a character as to render operation impossible.

"On account of the destruction it was not possible to make an examination of interior conditions, but we were advised that water had risen in the shafts, and the workings must

of necessity be filling up, inasmuch as it had not been possible as yet to resume pumping in the district.

"What interior damage was done by the Germans is not known, but the French engineers were inclined to discredit reports to the effect that shaftings had been dynamited and that quicksand and marl, which, in this section are thick and heavy water-bearing, had been permitted to flow into the mines."

During the five years preceding the war, the coal consumption of France was slightly less than 60,000,000 tons a year. Of this amount 40,000,000 tons were produced in France. French production fell at the outset of the war to 20,000,000 tons. Importations continued at about 20,000,000 tons, the main Lens field being occupied by the Germans throughout the war. In 1917, production was raised to 28,000,000 tons.

Eventually, increasing scarcity and rising prices forced the French government to assume complete control of the industry. Severe restrictions were imposed upon the use of coal for household purposes and a system of rationing was introduced. All coal was bought by the government and resold at a price having no necessary relation to its cost. Thus 80 francs a ton was charged for coal for household purposes, while industries were charged 120 francs a ton. The intention of the government was to conduct the whole transaction without incurring loss. The northern fields which suffered most severely produce 65 per cent of the French output of coal and there are no other French fields comparing in size or quality with these. The plants razed by the Germans had been "of the most modern and permanent character, of extra heavy steel and masonry construction, with electrical and compressed air equipment, and in some cases, by product coke ovens. The shafts ran from 1,300 feet at the Lens mine to 2,700 feet at the Paul Schneider shaft at Louches."

"France," says the report, "must look outside of her own borders for at least half of her coal supply for some little time to come. There is every prospect that with the present shortage in England, Great Britain will experience difficulty in meeting anything more than her present demands. In that event, it is not improbable that there will be a demand of very considerable proportions for American coal, although comparatively little coal has ever been exported from the United States to France in the past."

Restriction on Importation of Pyrites Removed

The War Trade Board announced, January 15, that the restriction upon the importation of pyrites has been removed. Licenses will now be issued, when the applications are otherwise in order, for the importation of pyrites from any country

HEROIC STEPS TAKEN BY THE BRITISH TO MEET FUEL PROBLEMS

Details of the heroic measures taken by the British government to meet fuel problems vital to the winning of the war are presented at length in a memorandum supplemental to the general report of the commission sent abroad by United States Fuel Administrator Harry A. Garfield.

Where the United States was able to increase its coal production, Great Britain, during the five years of the war suffered a loss of approximately 185,000,000 tons mined, using the 1913 production figures as a basis for computation.

The steps taken to meet the situation included:

Government control of mines;

Restriction of export, which suffered to the extent of 160,000,000 tons of the 185,000,000 mentioned;

The rationing of households, designed to conserve eight million of the forty million tons normally consumed annually for domestic purposes; and

"Zoning" consumers to the mines nearest them, through which the railroads were able to take up the burden added by loss of shipping from submarines.

Something of the magnitude of the disorganization wrought in the British coal trade by the advent of the war may be realized by a glance at the statistics dealing with the rush of mine workers to the colors when the war began.

In the first year of the war 191,170 miners enlisted and in June, 1916, the total had risen to 285,000. On the latter date the net loss of mine labor had been reduced to 153,000 men through extraordinary efforts to return soldiers to the mines, but this latter program was interrupted early in 1918, by the necessity of returning 75,000 miners to the battle lines.

"Uneven distribution" is assigned in the report as the next gravest of the initial problems of the war."

The railroads had been brought under government control at the beginning of the war, and the railway department of the Board of Trade simultaneously began supervision of the relief of local shortages. But as the result of experiences in the first winter of the war, a Coal Exports Committee was appointed by the president of the Board of Trade in May, 1915, with power to increase domestic supply by restricting exports.

Distribution committees, the report continues, were set up in the second winter of the war, but it was not until July 4, 1917, that the zone system was installed by the Coal Transport order under the Defense of the Realm Regulations. The report says that the coal set for the zoning operations, the saving of 700,000,000 ton miles annually, seems to have been attained, and adds:

"It is asserted, moreover, that but for this saving, the railroads would not have been able

to meet the increased demands enforced upon their facilities by the submarine menace."

The rationing system has not been in operation a sufficient length of time, the commission found, to allow for an effective check on its results. Rationing was applied to the whole country only in the fall of 1918, though London was rationed in the winter of 1917. Where the French system is to ration coal upon a per capita basis, the British allowance was computed upon the number of rooms occupied.

The report points out particularly how the exports restrictions, aside from keeping within the country the necessary quantities of coal for war operations, made coal "a very effective weapon in the conduct of the war, not only in assisting allies, but in exacting favorable terms with neutrals, as well as securing much needed materials, supplies and shipping."

The Coal Exports Committee determined not only the amounts to be exported and the consignee, but the price of sale.

Taking up the subject of government control, the report makes it clear that operation of the mines was left in the hands of the owners, and that their profits were reduced when their output fell below pre-war figures, although not in exact proportion.

The Coal Mines Control Agreement (Confirmation) Act, passed by Parliament, February 8, 1918, embodied the substance of long negotiations between the mine owners and the Coal Controller, Mr. (late Sir) Guy Cathrop, who was general manager of the London and Northwestern Railway when appointed in February, 1917.

Collieries were guaranteed a "standard" profit when their pre-war output was maintained, and a portion of their excess profits taxes went to the fund from which the Coal Controller paid his administration expenses and allowances to mines which failed to maintain their pre-war profits.

"For the purpose of compensation," the report says, "the Controller takes as a standard, the profit and the output in the pre-war period which was adopted for excess profits only under the Finance Act of 1915 (i. e. the average of the best two out of the three years before the war or the best four out of six.)"

Of excess profits earned a colliery was allowed 200 plus five per cent. Eighty per cent of the remainder, according to the report, is collected by the Inland Revenue as Excess Profits Duty and fifteen per cent allocated to the Coal Controller's finances, known as the Coal Excess Payments (Fund).

No figures were available, says the report, but it was rumored that this fund gave promise of a considerable deficit.

Coupled with the inroads of the army upon the ranks of the miners, "excessive absenteeism" on the part of remaining miners is mentioned in the report as a chief contributing cause to the loss in production.

The assumption of government control of all coal mines followed very shortly upon labor troubles in the South Wales field in 1916. On December 1, of that year, the Government assumed control of those fields, and on March 1 following, Mr. Calthrop was given direction of all coal mining operations as well as of distribution, price and consumption of coal. An advisory board made up of representatives of mine owners and mine workers was appointed to assist him.

"Labor troubles have required constant and continuing attention," says the report, "and there is no little unrest at the present time. . . . The English authorities assert that they do not anticipate any serious difficulty, but the labor situation is, to say the least, uncertain."

**WEEKLY COAL REPORTS STOPPED;
VALUABLE RECORD ESTABLISHED**

Weekly coal supply reports will not be required from industrial consumers and dealers after February 1, it has been announced by the United States Fuel Administration. More than 60,000 of these reports have been received each week by the administration since last June, and the tabulated results have been utilized in accomplishing the equitable distribution of fuel.

The individual reports have been treated confidentially by the State Fuel Administrators and by the Washington headquarters and have been of great value in the problems of coal distribution during the past year, and will be invaluable as records for future use.

Labor Decisions

Can a union organizer go into a locality and secure members when the workers have agreed not to join a union so long as they remain in their employer's service? Can a state extinguish private employment agencies by denying to them the right to collect fees from workers seeking positions? Can state legislatures piece out the action of Congress in regard to the redress granted to employes injured in interstate commerce?

The three questions noted above were put

up to the Supreme Court of the United States, which answered "no" in each instance. The first case was before the various courts for more than ten years, being the proceedings of the Hitchman Coal Company, of West Virginia, against John Mitchell and others; the second arose under a statute of Washington attempting to do away with fee offices for the placing of workers, while the third reversed the courts of New York and New Jersey in their grant of compensation benefits to employees injured in interstate commerce without a charge of negligence being made against the employer.

In the field of new legislation, laws fixing minimum wages are found in several states, and their constitutionality was for some time in doubt. However, the Supreme Court, by an equally divided bench, last year sustained the Oregon law on this subject, and the courts of last resort of Arkansas and Minnesota took similar action in regard to like laws in their respective states.

Other interesting decisions are one affirming the right of a coal company to keep any person objected to off the streets of a village owned by it; one sustaining a law of Missouri requiring employers to give a clearance card or service letter to workmen leaving their service; one holding labor liable for loss of employment due to the malicious act of the union with regard to an expelled member, and one declaring the mothers' pension law of Utah constitutional.

Coke Production by Months

Figures on coke production by months during the year 1918 have been furnished to the United States Fuel Administration by the Geological Survey. These figures show an increase in the production of byproduct coke of 3,825,000 net tons, or 17 per cent, compared with the output of 1917. Beehive coke production decreased 8 per cent. The output of both kinds of coke was 56,670,000 net tons, compared with 55,606,828 net tons in 1917. This is an increase during 1918 of 1,063,172 net tons, or about 2 per cent. Following is the table:

Months.	Beehive		By-product	
	1917.	1918.	1917.	1918.
January.....	2,923,056	2,242,362	1,787,850	1,649,819
February.....	2,489,888	2,234,281	1,806,773	1,562,056
March.....	3,138,977	2,630,433	1,813,435	2,051,206
April.....	2,813,935	2,580,931	1,859,278	2,021,437
May.....	2,861,364	2,757,719	1,879,268	2,139,204
June.....	2,754,897	2,712,726	1,880,335	2,092,155
July.....	2,753,902	2,813,910	1,882,200	2,300,673
August.....	2,649,755	2,657,022	1,914,450	2,387,675
September.....	2,727,367	2,570,238	1,918,714	2,410,798
October.....	2,780,436	2,611,885	1,898,192	2,563,183
November.....	2,677,284	2,339,197	1,899,526	2,523,746
December.....	2,596,687	2,255,296	1,899,259	2,562,048
Totals.....	33,167,548	30,406,000	22,439,280	26,264,000

COAL PRICES AND ZONES, EXCEPT ANTHRACITE, END FEB. 1

Governmental restrictions on the prices of coke and all coal, except Pennsylvania anthracite, and the zone regulations covering the movement of these fuels by rail will be suspended February 1, 1919, it was announced January 17 by the United States Fuel Administration. Restoration of both zone and price regulations will be immediately liable should changing price, wage, labor, production, or other conditions command it, the announcement said.

The accumulation of stocks of bituminous coal sufficient to guarantee consumers a full winter's supply is one of the basic reasons for the suspension of the regulations.

On January 1 the average stocks of bituminous coal for the country were approximately sufficient for seven weeks' consumption, and in the regions farthest from the mines twenty weeks' supply was on hand.

Maximum prices at the mine for bituminous coal were fixed by presidential order of August 21, 1917, with a range of from \$1.90 to \$3.25 per ton in various districts. Unprecedented demand early in that year had sent the market up to \$5, \$6, and even \$7.50 per ton, to the extreme demoralization of business. Adjustments subsequently were made, the prices at present ranging from \$2.35 to \$4.95 per ton.

Zone regulations were announced in March, 1918, dividing the country into fourteen districts, and are credited with having saved the railroad 160,000,000 car miles by eliminating cross hauls and allotting consumers to the nearest mines. The relation of this saving to the enormously increased production of coal in the United States is obvious when it is understood that storage of coal at the mine is not possible; that is, that cars must move continually from the mine if production is to be maintained.

Under the spur of war demand, production of bituminous coal in the United States in 1917 increased some 50,000,000 net tons over 1916, and there was a 12,000,000 ton increase in anthracite production. The railroads were required in 1917 to handle more than 60,000,000 tons of coal in excess of their 1916 load.

Under the high-pressure production campaign maintained by the United States Fuel Administration, the bituminous output in 1918 by the end of September registered an increase of more than 36,000,000 tons over the corresponding months of 1917.

The Fuel Administration called special attention to the fact that the prices established under the provisions of the Lever Act have been maximum prices, based on the cost of production rather than on quality of coal, and that in the return to normal a different relation between prices in the several fields, based as in normal times on quality of coal, may fairly be expected to obtain.

The Fuel Administration also stated that in the light of the so-called "Washington Wage Agreement" of October, 1917, whereby it was agreed to continue the wage scale then agreed upon during the war, but not beyond April 1, 1920, the wages of mine workers should not now be reduced, and it is expected that whatever prices are asked or secured for bituminous coal between now and the promulgation of peace will be based upon the present wage scale.

Attention is also called to the fact that the that the maximum prices and zone regulations on Pennsylvania anthracite coal, which is largely domestic, are not affected by the above announcement.

Bituminous Coal Production by Months

The estimates of bituminous coal production in the United States by months during 1918 have been completed and furnished to the United States Fuel Administration by the Geological Survey. These figures, which include lignite and coal made into coke, compared with the corresponding months of 1917, show an increase of 34,092,437 net tons for the twelve months. The figures by months are as follows:

Months.	1917.	1918.
January.....	47,967,354	42,607,206
February.....	41,352,711	44,384,937
March.....	47,868,652	48,631,115
April.....	41,854,320	46,590,570
May.....	47,086,452	50,927,195
June.....	46,824,646	51,758,214
July.....	46,291,572	55,587,312
August.....	47,372,226	55,732,092
September.....	45,107,956	51,757,334
October.....	48,337,726	52,885,513
November.....	47,689,801	44,386,987
December.....	44,037,147	40,634,525
Totals.....	551,790,563	585,883,000

Import Restriction on Monazite Sand Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of monazite sand has been removed, and that licenses will now be issued, when the applications therefore are otherwise in order, for the importation of this commodity from any country.

Import Restriction on Manganese Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of manganese ore or manganese dioxide from Asia and Australasia (W. T. B. R. 159, issued July 5, 1918) has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation of manganese ore or manganese dioxide from any country.

BUREAU OF MINES REPORTS ON BLACK SANDS INVESTIGATION

As a result of the unusual demand for platinum in the manufacture of materials needed in war, and of the decrease in supply through smaller imports resulting from the curtailed production in Russia, the United States was confronted with a serious shortage of this metal, and the market price rose to four or five times the price in 1914.

On account of this unusual situation and the need of ascertaining the possible increase of production in this country, the Bureau of Mines, decided to investigate some of the more promising localities on the Pacific coast where gold and platinum are known to be associated with such minerals as magnetite, chromite and ilmenite, with various siliceous minerals, the aggregate constituting what are commonly known as "black sands." The object was to determine whether any of these deposits are large enough and contain sufficient gold and platinum to be profitably exploited, and also to determine whether the base minerals present, especially the iron minerals, might be commercially utilized as a source of iron.

The investigation was entrusted to R. R. Hornor, metal-mining engineer of the Bureau of Mines, who proceeded to Marshfield, Coos County, Oregon, and spent a month in the field of Coos, Curry, and Josephine Counties, Oregon, and Del Norte County, California.

The results of the investigation may be summarized by the statement that in general the black-sand deposits are disappointing in both value and quantity; they rarely contain enough gold and platinum or occur in adequate quantity to be exploited at a profit.

There are, it is true, a few favored places where small areas of the black-sand show some previous-metal content, and these may become the site of small operations. The deposits in many places contain appreciable amounts of magnetite, chromite and ilmenite, but these minerals are generally too scattered and too poor to constitute an important source of iron ore, especially in competition with the known deposits of magnetite on the Pacific coast.

The chief difficulties in the profitable exploitation of these deposits are: first, lack of uniformity in occurrence and metallic content, and, second, the high cost of mining and treating the materials.

The first record of beach mining was in 1851 at Gold Bluff, Humboldt County, California, where gold was discovered on the sea beach associated with black and gray sands. This discovery was soon followed by others north along the California and Oregon coasts.

The period of greatest activity appears to have been from the beginning to the middle seventies, when the richest and most accessible of the old beaches were being worked. From that time, until the present, many futile

attempts have been made to work both the present and the old beaches for the gold and platinum that they are supposed to contain. A few individuals, it is true, make a precarious living by working places along the coast where at certain times of the year the tide and storms effect a rough concentration of the sands; but wherever an attempt has been made to work the sands on a large scale, failure has invariably been the result.

Black-sand mining in the past has offered a fruitful field for unscrupulous promoters and has been especially alluring to men having little knowledge of mining or mining methods. These swindlers usually claim to have some wonderful machine or process for extracting gold and platinum from the sands.

Many of these agents made the most extravagant claims for the processes or machines. Some of these process men were so bold as to claim that they could recover gold and platinum where it could not be detected by any known scientific method. As a result, the Pacific coast is strewn with the wrecks of many kinds of experimental machines and of plants that bear evidence to the credulity and childlike simplicity of those who had been induced to invest their money in schemes for treating the sands.

Technical Paper 196, "Notes on the Black Sand Deposits of Southern Oregon and Northern California," has just been issued by the Bureau of Mines. Copies of this report may be obtained free of charge by addressing the Director of the Bureau of Mines, Washington, D. C.

COMPENSATION PAYMENT WITHOUT SUITS IN ALL BUT TEN STATES

The movement to compensate industrial accidents without suits to prove negligence of the employer is one of the most striking in the field of labor legislation in recent years. From indifference and even hostility hardly more than a decade ago, the principle has obtained acceptance in all but ten states of the Union, and the day seems not far distant when the obsolete system of damage suits and charges and counter-charges of negligence and contributory negligence will no longer be used in the disposition of industrial injury claims, says the Department of Labor. The subject is brought up to date in Bulletin 243 of the United States Bureau of Labor Statistics, which supplements earlier publications and presents the action of the courts and legislatures during the years 1917 and 1918. Five new states came into the compensation fold in 1917 and one in 1918, while amending and supplemental laws were enacted in more than thirty jurisdictions.

The fear once expressed that such legislation would entail undue burdens on industry has largely died out, both as a result of satisfactory experience under the acts and because it is becoming better understood that the compensation laws do not cause injury losses, but

only distribute the burden of them, relieving the weakest element of the system—the injured worker—and placing the cost of his injury on the industry as a whole. This realization has opened the way for amendments liberalizing the awards to be allowed, as regards both amount and duration, though the standard is as yet not of a uniformity nor of an adequacy that is shown to be desirable, the department holds.

Other things indicated in the bulletin are the shortening of the waiting time, for which, as a rule, no compensation is allowed, and the increase of the allowance of medical and surgical aid. A notable departure in this connection is the provision in the law of Washington for local funds, supported and administered by employers and employees jointly, with a view to the more effective and equitable administration of medical benefits. Other important provisions in this field are the removal of fixed limits to the medical and surgical aid to be furnished in some jurisdictions or its continuance for as long as necessary to reduce the compensation period, and the first allowance of this form of relief in two states.

The bulletin also presents a summary of important court decisions and commission rulings construing and applying the laws of the various states. Worthy of special note among these are the decisions of the Supreme Court denying the application of state compensation laws to employees of interstate carriers, thus emphasizing anew the importance of a provision for the redress of the injuries of this great body of workers on a basis not less favorable than that enjoyed by the industrial workers of the country generally.

While the volume is a simple record of facts and progress, it is nevertheless an argument for a wider extension of these laws territorially, and for a more complete inclusion of employed persons, so as to afford an adequate means of relief for workers of whatever class when laid aside from their work by the consequences of industrial accident or of the injurious conditions surrounding their employment.

MEN WHO DIRECTED WAR MINERALS WORK FOR BUREAU

Division of the War Minerals Work of the Bureau of Mines is shown by the following:

J. E. Spurr—Executive of the War Minerals Investigations of the Bureau of Mines. Formerly a member of the Committee on Mineral Imports of the Shipping Board.

H. S. Mudd—In charge of the War Minerals Investigation of graphite, antimony, and bismuth; Assistant Secretary of the War Minerals Committee; member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications; representative of the

Bureau of Mines on Joint Information Board and General Contract for the minerals and their derivatives.

A. G. White.—In charge of the sulphur resources, also Administration Assistant to the Executive of War Minerals Investigations; Mine Economist for the Bureau of Mines; Secretary of War Minerals Committee.

J. E. McGuire.—In charge of the War Minerals Investigations of Chrome and Tungsten.

J. C. Orchard.—Assistant Mine Economist for Bureau of Mines. In charge of the editing and publication of a series of confidential reports on the political and commercial control of the mineral resources of the world.

W. C. Phalen.—Mineral Technologist for the Bureau of Mines; field work on manganese for the War Minerals Investigations.

G. J. Salmon.—In charge of labor problems connected with the metal and non-metalliferous mining industry; member of Committee on Mechanical Labor Saving Devices as applied to mining. Also in charge of matters related to industrial furlough from the Army in cooperation with the War Department.

A. W. Stockett.—In charge of the War Minerals Investigations for Potash resources. Also a member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications.

A. E. Wells.—In charge of sulphuric acid work for the Bureau of Mines in cooperation with the War Industries Board and the Chemical Alliance.

H. C. Morris.—In charge of the War Minerals Investigations of various metals. Also a member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications.

C. M. Weld.—In charge of War Minerals Investigation of manganese, iron ore, ferro-silicon, and later of chrome; representative of Bureau of Mines on Ferrous Section of the War Industries Board; now Assistant Executive of the Minerals Investigation.

F. H. Probert.—Engaged in special field work for the War Minerals Investigations; dean of the Mining Department of the University of California; consulting engineer of the Bureau of Mines.

H. A. Buehler.—In charge of the War Minerals Investigations of Pyrite; also State Geologist of Missouri.

Ferromanganese Importations

The War Trade Board announced, January 15, that licenses will be issued, when the applications therefor are otherwise in order, for the importation of ferromanganese from Great Britain, covering shipments which have been contracted for by American consumers prior to April 6, 1917. The affidavit of the importer or written statement from the consumer of the existence of the contract will be considered sufficient evidence.

COAL NOW MAY BE EXPORTED WITH FEW RESTRICTIONS

A measure of relief for European populations whose need of coal has been officially reported to be only second to the necessity for food was found in an announcement, January 15, by the War Trade Board, that applications will now be considered for licenses to export coal to Europe and to the Argentine and Uruguay.

Shipments for the countries contiguous to Germany will, however, be limited to the amounts prescribed in the several rationing arrangements for those countries, and will follow certain defined procedures.

Increase in shipping facilities, it was stated, made possible the action of the Board, and as these facilities are further augmented, still greater freedom will be granted in the issuance of licenses.

Licenses for the exportation of coal to the Argentine and Uruguay will include the condition that shipments must be consigned in care of the War Trade Board representative at Buenos Aires or Montevideo.

Restrictions on Fuel Contracts Amended

Abrogation of important restrictions regulating the making of contracts for coal and coke has been announced by the United States Fuel Administration.

The restrictions are amended substantially as follows:

Cross-hauling is no longer prohibited.

The filing of contracts with the Fuel Administration is no longer required.

The making of oral contracts is no longer prohibited.

Contract regulations remaining effective are:

All coal shipped is subject to requisition and diversion.

All contracts are subject to cancellation by the Fuel Administrator.

An additional regulation that contracts shall be at Government price, in effect at date of shipment, also remains as a precaution in case it should become necessary to reinstate prices on coke and bituminous coal, which, it has been announced, will be suspended February 1.

A restriction that contracts shall not extend for a period of more than one year was previously withdrawn.

Coal and Coke Requisition Orders Cancelled

All orders for the requisition of coal or coke, whether they are now outstanding or issued prior to the present time, have been cancelled and annulled, to take effect on January 31, it has been announced by the United States Fuel Administration.

PERSONALS

Mr. Agnew, president of the North Star Mines Company, Grass Valley, Cal., was in Washington during the month.

A. Scott Thompson, of Miami, Okla., is at the Washington office of The American Mining Congress. Mr. Thompson is chairman of the revenue legislation committee of that organization, and has done very excellent work in that capacity.

Otto Ruhl, of Joplin, Mo., was in Washington for a few days the latter part of January.

J. F. Callbreath is again at the Washington headquarters, after an extended trip through the western mining centers.

Walter Douglas sailed for France the latter part of January, where he will remain for several weeks.

Bulkeley Wells, President of The American Mining Congress, was in San Francisco for several days during the month.

R. C. Allen, who has been prominent in his work with the Treasury Department in regard to revenue matters, attended the organization meeting for the creation of a state chapter of The American Mining Congress, held at Joplin, January 28, 29 and 30.

Paul Hopkins, of Fairbanks, Alaska, at a meeting of the executive committee of the Alaska Chapter, American Mining Congress, was elected secretary of the chapter. Mr. James Trail, former secretary, resigned because of inability to give proper time to the work.

Record Custodian for United States Fuel Administration

Harold B. Harris has been appointed custodian of records of the United States Fuel Administration.

Mr. Harris has been a member of the Bureau of State Organizations of the Fuel Administration, and has had charge of retail prices. By the terms of the order, he has "authority to make such arrangements as shall be necessary and proper for the custody, safekeeping and disposition of all records and documents of the United States Fuel Administration."

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

CUSHING AND COMMON SENSE IN COAL INDUSTRY

Are the dangers of cooperation so great as to make all efforts inadvisable which look to a stabilizing of the coal industry? Are the most valuable lessons of the war to be of no avail because some brilliant theorist is able to fancy an imaginary line between acts which stabilize the great basic industry of coal mining, and an imaginary violation of the Sherman Anti-Trust Law? *MINING CONGRESS JOURNAL* does not believe that the proposed plan of the National Coal Association, through which its members shall be advised of market conditions, can, by any stretch of imagination, be construed to be a violation of the Sherman Anti-Trust Law, nor of the Clayton Act. On the contrary, it regards the proposed plan as an extremely practical method by which the provisions of the Federal Trade Commission Act shall be effectively enforced, with reference to the suppression of unfair methods of competition.

In an article which appears on another page of this issue, George H. Cushing assumes "that the real purpose of cooperation is, in some way, to nullify the law of supply and demand, and thereby to give a price to all operators which is profitable to all of them, notwithstanding the fact that the number of mines in existence is 50 per cent in excess of the number that is actually required."

Mr. Cushing clearly outlines that unless this method is pursued the result will surely be a cut-throat competition, a selling of coal below the cost of

production which will necessarily and naturally result in driving out of business the 2,500 mines which represent the surplus production capacity of the nation's coal industry. It is true that Mr. Cushing's language is studiously broad enough to cover all efforts of any branch of the coal industry and also that it was written before any detailed plan of any association was made public. Still it is published after the National Coal Association plan was announced and, whether he so intended or not, it will be read as a direct criticism of that association's plan. The latest enactment of the Federal Government relating to combinations is that contained in Section 5 of the Act creating the Federal Trade Commission, and directs that commission "to prevent persons, partnerships, or corporations . . . from using unfair methods of competition in commerce."

It cannot be assumed that one-third of the coal-producing capacity of the United States must operate under an average production cost greater than the other two-thirds of such capacity. In order that the 2,500 mines referred to by Mr. Cushing shall be driven from business, it is necessary that the other 4,500 mines shall sell coal for a considerable period at less than the cost of production. As Mr. Cushing expresses it: "If there are 50 per cent more mines than are necessary, and if the competitive spirit among them were allowed free play, the result would be a price for coal which must, in short, eliminate from business those companies which had such short purses, they could not any longer endure the loss." In other words, only those

mines with big capital or extensive credit could remain in business. This is the exact process for which the Standard Oil Company has, in the past, been prosecuted in the courts and condemned by the people. Can it be that an intelligent effort, which contents itself with publishing facts as to market conditions and which thereby "holds up that price to a point where it avoids the obvious consequences of too many mines, is properly a movement in restraint of trade, no matter how innocently that movement is phrased"? On the contrary, the Clayton law, to again quote Mr. Cushing, "strengthens the purpose and intention of the Sherman Anti-Trust Law by inveighing against unfair competition or against those devices by which the unnecessary units in a business are eliminated therefrom." This last quotation is a most exact statement of the purposes which the National Coal Association has in mind to protect the coal industry from bankruptcy, to preserve the machinery of production and maintain a fair competition which will protect the consuming public against unfair prices, and which will, at all times, keep available for public use a little more coal than enough to supply the consumption demands.

MINING CONGRESS JOURNAL believes that the plan proposed by the National Coal Association carries with it possibilities of great service to the miner, to the operator and to the consuming public, and makes possible a proper conservation of the fuel supply of the United States for the benefit of future generations.

WAR MINERALS RELIEF

A two-month fight in Congress to secure relief for the men who stood to lose fortunes through the failure of the War Minerals Bill to function is ended by the signature of President Wilson to the War Minerals Relief Bill which places in the hands of Secretary Lane \$8,500,000 with which to meet the claims of producers.

Only net losses on production or development for the purpose of production of manganese, chrome, pyrites, or

tungsten, requested or directed by the Department of the Interior, War Industries Board and other Federal agencies, will be paid after ores or equipment are salvaged at the best prices.

This closes a most valuable work in behalf of the mining industries by the War Minerals Division of the American Mining Congress. The executive committee of the division has been quite constantly on duty in Washington assembling data, assisting the senators and representatives from mining states to make proper investigation into the proofs and carrying on a general campaign of education as to the causes of the distress among mining companies. The first bill included all war minerals named in the law which passed Congress October 5. The final measure covers but four substances, these being recognized by the Interior Department.

All claims for relief must be filed with the Bureau of Mines within three months after the measure becomes a law.

This is another triumph for cooperation. The American Mining Congress assembled such a mass of evidence and presented such convincing proof of actual distress that many congressmen, at first quite unwilling to believe that such conditions could exist, finally withdrew their objections. Many members of the War Minerals Division Committee remained in Washington from the date of the convention held in December until the bill was passed.

UNITED STATES TREASURY AND THE GOLD SITUATION

Another page of this issue carries the report of a committee appointed by the Secretary of the Treasury to investigate the conditions of the gold mining industry.

MINING CONGRESS JOURNAL cannot approve the conclusions reached by this committee. It does not agree with the committee that the problem involved was a war problem.

It has at all times believed and still believes that a proper relation between the gold reserves and the structure of credit, which it supports, is an intensely vital question in times of peace. We

therefore fully agree with the statement of the committee that "in times of peace the gold reserve is undoubtedly an important factor in controlling the credit structure, but in time of war that structure is determined by other causes;" but we cannot approve the latter statement that "the cessation of hostilities radically changed this situation, and, with the change in the situation, any need of particular effort to promote or stimulate our gold production which may have existed has ceased." The MINING CONGRESS JOURNAL still believes that the need of gold depends entirely upon the amount of credit which it is called upon to maintain. During the war, when all gold was under embargo, it mattered not whether or not there was much or little in the treasury. When gold is again permitted to perform its usual function, the question will again become vital to business life. We agree with the committee that at this time it would be unwise to undertake to follow the recommendations made by the Reno Conference, but that does not necessarily mean that there is no need for special stimulation of the gold mining industry. It is not at all probable that prices will ever again reach the levels of 1915. Gold mining cannot be profitable, except to the high-grade mines, until prices fall again to that level. The use of money must necessarily increase in proportion to the expansion of our business transactions. High prices mean larger business transactions, the higher the price the more money required to carry on business; the larger the business transaction, the more money required.

The Government's obligations to other nations have already been paid for many years to come. It is not for the settlement of trade balances that gold is required, but as a reserve to support credit money with which our domestic business transactions are carried on. The approval given by the committee to the views of Prof. Irving Fisher will not be consoling to those who believe in the gold standard. MINING CONGRESS JOURNAL regrets that it is unable to agree with the eminent authorities who unite in agreement that the stimulation of gold production is a matter of small importance.

In the year 1907, at a time of great business prosperity when all labor was employed at the highest wages theretofore known in the world's history, a lack of confidence in the ultimate redemption of commercial obligations brought on a panic, business was paralyzed, the banks of the country refused to pay back the money of their depositors, except in certain limited quantities, and the situation was so serious that the public fully approved the banks' repudiation of their obligations.

The Federal Reserve Banking System grew out of the panic of 1907. But even this wonderfully valuable piece of legislation carries with it the possibility of an inflation which would have alarmed even the most radical devotee of greenbackism.

The inflation of 1907, which precipitated the panic of that year, did not approach the present situation. The present level of prices is an indisputable proof of that statement. Notwithstanding the assertions of college professors of the Fisher type that high prices result from an over-production of gold, it remains true that high prices never were in the history of the world predicated upon an over-production of gold nor upon an over-supply of gold, but always upon an over-supply of credit money. It will be said that increased gold supplies make possible an increased inflation. This is true but in part. The gold supply of the world today does not exceed by more than 10 per cent the gold reserve of the period of 1907. The price of war products today is 75 to 100 per cent greater than in 1907. High prices are not based upon gold, but upon the excess credit which precedes and leads up to financial panics and business depressions. The world needs to stimulate the production of gold more today than ever in its history.

A NOTABLE ADDRESS

In an address before the organization meeting of the California Chapter of the American Mining Congress at San Francisco, Cal., January 7, 1919, which appears on another page, Mr. Thomas A. O'Donnell outlined most vividly the

advantages of individual development which have made this country great.

From living in a tent with his widowed mother through the rigors of a Colorado mountain winter until the springtime made possible the construction of a cabin from slabs to a position which commands the respect of oil men from one end of the United States to the other, to a position which commands the absolute confidence of his business associates—furnishes an example which must command attention. Mr. O'Donnell is regarded as among, if not the most expert of men in the practical development of oil production—probably no man in the country has done more to make possible the winning of the war.

Most likely this thought has never entered Mr. O'Donnell's mind. He is one of the many modest leaders of industrial development the sum total of whose efforts furnishes the foundation upon which the power of this nation in peace or in war is based. The success of these men could never have been accomplished except in surroundings permitting the development of the individual. In surroundings offering big rewards for big effort, which promised the freckled-faced, half-clad, poorly-housed urchin that thrift, industry and perseverance, both physically and mentally, would eventually be rewarded. These qualifications have always, perhaps without a solitary exception, brought success. They have not always developed genius, for that is an inheritance, but always success.

THE VALUE OF COOPERATION

Among the many useful lessons which the great war experience has brought to us is the fundamental necessity for cooperation if the best results are to be obtained. During the war this nation, without regard to party, placed its resources and its support completely in the hands of their President. No other country furnishes a record of more rapid mobilization of power than was made by the United States during the year 1918. This marvelous speed of accomplishment was accompanied by the usual and necessary waste. Speed and power are inter-

changeable terms. The greater the speed the more power required. As a nation we can well afford to assume the burden of the waste which was required by our speedy accomplishment and content ourselves with the thought that speed can only be accomplished through a corresponding loss of power. Our national lesson is that we saved through cooperation more than we lost by great speed. We should find means by which to take advantage, in peace times, of the benefits of cooperation while avoiding the waste occasioned by the speed required during the war period.

During the war a less number of men produced an increased amount of coal. With 25 per cent of its labor capacity withdrawn from industrial operations the productive capacity of the nation as a whole was increased, and this notwithstanding the fact that the workmen as a whole performed less of service than in ordinary times. The best records at hand indicate that the efficiency of workmen decreased 25 per cent during the war period, and that as efficiency decreased wages increased. Notwithstanding this, the total productive capacity of the nation was at its maximum during the war period. This can be partly accounted for by the failure to replace and rebuild wearing out equipment, by the failure to keep reserve ore development ahead of mining operations, but more largely to a more perfect cooperation among the directing forces of the various industries. It did not grow out of the doctrine of the survival of the fittest. To accomplish these results all must survive and all must cooperate; all must work in complete cooperation. Reasonable competition is still and will continue to be the life of trade. Unreasonable competition, that competition which leads one business concern to undertake to drive his rival from business by cutting prices, carried to its legitimate conclusion, is the very reverse of that competition which is the life of trade. It ultimately leads to the creation of monopoly over which governmental agencies have no control. The Sherman Law was intended to foster reasonable competition and to prevent monopoly. Its enforcement has never been satisfac-

tory to the business life of America. It is time that this nation again gave fresh consideration to the principles involved, with a view to relieve business operations from restrictions tending to prevent that perfect cooperation which is essential to the highest efficiency of production.

The late ex-President Roosevelt declared this law to be "so incapable of enforcement as to make decent men violators of the law against their wills and to put a premium on the behavior of wilful wrongdoers." We believe the consensus of American opinion is to the effect that this law should be so amended or some new law should be enacted which would remove "the twilight zone" into which honest men fear to go and into which dishonest men may hide improper transactions under the uncertainties of the law. The referendum vote which is now being conducted by the Chamber of Commerce of the United States will more than likely result in the conclusion that the Sherman Law should be so amended as to permit reasonable business combinations under government supervision although it may not approve the plan which was submitted by the committee to accomplish this end.

Unfortunately, the Federal Trade Commission has not so functioned as to command the undivided approval of the business men of the United States. The original conception of a Federal Trade Commission was an organization which should be an aid to business. It grew out of a joint meeting of the Indiana and Illinois coal men, held in Chicago early in the year 1912. At this conference a 95 per cent representation of the coal mining industry of these two states agreed upon the absolute necessity of better cooperation if the bankruptcy of the coal industry in those states was to be avoided. This agitation led to the consideration of this subject by the United States Senate Committee on Interstate Commerce beginning in December, 1912. These business units were greatly disappointed that Congress did not endow this new commission with power to aid business, and were greatly

disappointed that the powers given to the Federal Trade Commission, aside from its power to suppress unfair methods of competition, were limited to the investigation of business conditions, which power already existed in the then Bureau of Corporations.

It was hardly to be expected that an agency without power to accomplish those things which were needed and hoped for by the business of the nation could so conduct its affairs as to command their entire confidence. Any prosecuting agency is likely to make enemies of those whom it prosecutes and is not likely to receive the approbation of those who need assistance which it is unable to give. And this is particularly true when the agency was expected to render assistance and for a time conducted itself as though it expected to give such assistance. Under the present law the Federal Trade Commission has little power to affirmatively assist in securing the efficiency which cooperation in business life has shown to be possible by the nation's conduct during the war. It is up to the business life of the nation to present to Congress concrete plans through which these desirable conditions may be created.

GOLD EXEMPT FROM THE REVENUE LAW

Senator Thomas, of Colorado, must be given credit for one real promising effort in behalf of the gold industry. In the War Revenue Bill, Subdivision "D" of Section 304, reads as follows:

In the case of any corporation engaged in the mining of gold, the portion of the net income derived from the mining of gold shall be exempt from the tax imposed by this title, and the tax on the remaining portion of the net income shall be computed upon the basis of an invested capital, which bears the same ratio to the full invested capital as such remaining portion of the net income bears to the entire net income.

From the standpoint of the nation's interest in gold, no one step, practically without cost to the nation, will better serve the purpose of aiding the production desired than its exemption from the provision of the federal revenue law.

While this exemption will not in any way benefit the production of gold from low-grade properties, because under present conditions it is impossible to make any profit from their operation, in most instances the loss in operation is so great as to force the closing of the low-grade mines. In the production of gold from high-grade mines, the conditions are entirely different. There the application of a 60 per cent tax has much the same effect as a 60 per cent tax would have upon a bank, because of its transfer of cash from one fund to another. It will be readily seen that a 60 per cent tax applied to the transfer of funds from one account to another would effectually prevent the transfer. The relief which this exemption provides for gold mining will very largely stimulate the production from the high-grade mines.

It will not, however, provide the remedy which the MINING CONGRESS JOURNAL has been urging in order that low-grade mines might be kept in operation. Sooner or later high-grade gold will all be extracted and in the end will take its place as a basis of support for our currency issues. The low-grade mines, once dismantled, will not be reopened unless the price of gold shall double its present purchasing value. That gold will not become a part of our gold reserve except under conditions which will be extremely dangerous to our financial structure. Special stimulus should now be given to keep these mines in operation and prevent the waste and destruction which will necessarily follow a cessation of operation.

Senator Thomas with other members of the Senate Finance Committee are entitled to the special appreciation of the mining industry for that study of its conditions which has enabled them to report a bill bringing to the mining industry a large share of justice. Senator Thomas is entitled to special credit for the provision in the Revenue Bill exempting gold mining from its provisions.

IS SELF-REFORM OF ORGANIZATION POSSIBLE?

It is frequently stated and fully accepted by many people that any large

organization, political or otherwise, can be reformed best from within and that efforts on the part of outsiders to accomplish its reform only cement its following into a more active opposition to the desired changes. This general belief is subject to question. The present viewpoint of the employers of labor, toward organized labor and toward labor generally, has been very materially changed in recent years. It can scarcely be claimed that all these reforms have been brought about through the initiative of the employer. In fact, competitive conditions in business life increase the employer's necessity to get the most of service by the payment of the smallest wage possible.

The United States Steel Corporation during recent years made seven voluntary increases in the wages of its employes. The fact that it has voluntarily made these various advances, some of which it might well have withheld and all of which it might have made under protest, rather than because of its ability to pay the increased wage, is very greatly to its credit. Many other corporations have a splendid record in this direction. Some few corporations deserve condemnation because of a reluctance to treat in a proper spirit the rights of their employes to the best wage the business in hand will warrant.

MINING CONGRESS JOURNAL believes that the last great coal strike in Colorado was not justified, that its inception was based on motives which cannot be justified. Notwithstanding this, the result of that strike, with its terrible loss of life and its large destruction of property, was to bring about a better appreciation, on the part of the Rockefeller interests, of the proper relation which should exist between employer and employe.

The reform began from without. It seems equally difficult for organized labor to reform itself against practices which all admit to be wrong, which cannot in the end bring benefit to organized labor and which do bring it into disrepute and create for it bitter animosities and opposition which are not for

its benefit nor for the general good of the public. The suggestion is offered that unionized labor, having much to its credit in the reformation of its employers, might itself receive untold benefit by effort on the parts of its employers to educate its membership. An acceptance of the belief that its best interests will always be served by keeping strictly within the requirements of law will mean an absolute repudiation of I. W. W. methods; of Bolshevism; of the principle embodied in the claim that any workman is entitled to any particular job. Collective bargaining must be collective *bargaining*—i. e., the voluntary meeting of the minds of both parties in mutual agreement. The contract proposal must not be enforced by the covert threat, supported by much of precedent—that unless the employer shall meet the demand he will not be permitted to operate his plant with any other help which he may be able to obtain. The rights of the employe must not include the destruction of the rights of the employer. Each side must give fair and full consideration of the rights of the other side and both must work in harmony if the best conditions are to be obtained.

LEARN BY EXPERIENCE

The coal industry is placed in a position where a great many coal men are asking themselves and each other: Has the coal trade learned anything out of or as a result of this war?

Things which the coal industry might have learned are three, namely:

First, by the creation of the Fuel Administration as the head of the industry the trade was brought to a focus at one point and had to act as one piece of machinery to do one thing, viz., to produce the amount of coal which the people had to have.

Second, by the creation under the Fuel Administration of the zones, coal learned that there is a natural transit limit for each fuel and that, therefore, there is only a natural market in which coal can be sold without incurring unusual and unwarranted expense.

Third, by being allowed to work steadily, in spite of enormous increases in the cost of material, coal producers learned that the cost of production could be kept below what any one of them believed to be possible.

The three lessons which the coal trade learned, therefore, were: the value of co-operation as a result of unification of the trade and a division of work among the different branches; the value of a market in the natural zone of that coal and the reduction of the expenses incident to the selling and the value of full working time as a factor in reduced cost of production.

The coal industry should have learned these three lessons because it had all the facts immediately before it and could hardly escape getting the point.

However, the influence of the war has been removed from the coal trade only four months and it is back to exactly the point when it went into the war. Rather than there being cooperation the seeds of disintegration are being sown everywhere. Individuals are distrustful of each other and associations heretofore in affiliation are splitting into warring groups and something akin to a feud exists between the associations representing the different branches of the industry. Apparently the coal men were inoculated by the spirit of cooperation during the war, but it did not take.

As to the matter of steady working time to reduce the cost of production, and the limiting of the number of mines necessary to allow the essential mines to work steadily, the coal men have disregarded the object lesson and have taken exactly the opposite course. All mines are continuing in existence and each one has its working time slowed down to a point where total production will just about equal current demand. That is, every mine is working a little and, therefore, every mine is showing maximum cost of production today.

Answering the question, therefore, whether the coal men have learned anything, it may be said, while they must have learned, they are not putting it to practical use. The coal trade is thus in the position of a young man who

spent sixteen years getting an education, including a college education, and who, with his degree in his pocket, goes out to accept a position as a common laborer.

CAUSE VERSUS EFFECT

In attempting to solve the problem of a world peace the statesmen of the world are duplicating the same mistake which has so often been made in business in the United States. That is, they are trying to apply the remedy to the effect rather than to the cause of war.

Perhaps it is only a philosophical point, but nevertheless it is a vital point, that the primary cause of the wars from the days of Moses to the days of Wilhelm of Germany has been either the hunger of the people or the fear of hunger. More people have grown up on a certain piece of land than that land could feed.

There was danger, so long as that continued, that the overcrowded population would become hungry. What was the equivalent of the same thing, there was danger that somebody outside of the nation would come to control that nation's supply of food and either elect to starve it or elect to levy tribute on it. It has been the struggle to get away from either or both of these dangers that generally has led to war.

The remedies proposed by the various international treaties have not so far touched that basic question. It would seem that so long as that question remains unanswered the cause for war increases rather than diminishes. Anything which binds a nation within its boundaries and places the food supply in the hands of another people must of necessity create not a cure, but a cause for war. On this account much that has been said and done in the direction of universal peace may be classified as so much waste of time.

A BIT OF PROPHECY

The current situation in coal is about as follows:

Retail dealers bought at war prices more coal than they could resell, after the armistice was signed, at a profit.

Steam users during the war bought at high prices more coal than they could use during the war and they are now burning high-priced coal to produce low-priced finished products. Also the railroads are blocked up with high-priced coal which they wish now they did not have. Everyone, therefore, is in a position where he feels that he has a coal grievance due to the fact that he indulged too extensively in storage at high prices.

The answer is that all these people will not want to duplicate this experience and buy coal for storage.

Especially they are going to hold off so long as there is a prospect that the wages of labor are going to be reduced. That wage reduction has not occurred. It will be delayed as long as possible. Therefore, prices will continue high as long as possible.

These two things in conjunction will delay the movement of storage coal and that will carry us into the fall with no stocks and prices still high. This prophesies a shortage of coal next fall and high prices unless coal men this summer warn people of the danger and plead for coal storage.

THE AMERICAN SPIRIT

Within recent weeks the American Mining Congress sent to all of its members a letter informing them of a request of the War Department that the American Mining Congress assist in finding positions for returning soldiers, this letter being accompanied by a questionnaire by which the congress might be informed of the possibility of employing some of these returning men—especially trained miners.

A number of replies thus far received indicate a most distressful condition in the mining districts, and in many cases the operators indicate in very plain language that unless a change can be brought about—a reduction in losses and an increase of market facilities worked out on a reconstruction basis—it will be impossible for them to continue their operations for any length of time. In other districts a few men are needed and

in these districts fine cooperation was indicated by the accompanying letters and lists. Some of the employers who have been merely keeping the properties moving awaiting the returning men, do not feel that the market conditions are sufficiently encouraging to allow them to add to their forces, but in some cases even where such conditions prevail, positions are open and will continue to be open for former employees who were taken into service.

One of the finest illustrations of the real American spirit prompting employers of labor comes from Alfred Martin, general superintendent of the Hollister Mining Company, at Crystal Falls, Mich., in which Mr. Martin says:

We had about sixty or seventy men here who left our employ to join the army and navy and many of these already have returned and we have reinstated them in their old positions. We have also written each one of our boys a letter, a copy of which we are enclosing herewith for your information.

We also beg to say that we are only working eight hours out of twenty-four at this operation, and all that we can do now is to take care of the boys who left us as they come back. If all industries would try to do the same we think there would not be many of our soldier boys looking for positions and we think the soldiers should be offered the positions they held before leaving for the army.

Mr. Martin's letter was accompanied by a form letter which has been sent through the War Department to all former employees congratulating these men upon their share in the great victory for democracy, and assuring them that they have not been forgotten by the company and that the old positions, whatever they might have been, are being held open for them on their return.

Another interesting letter is from Dr. David T. Day, one of the best-known officials of the Bureau of Mines, who is now developing an oil shale experimental plant in California. Dr. Day is determined to use in his experimental work only maimed soldiers—those who have lost either a leg or an arm. He is determined to pay \$4.50 per day per man during the training period and \$7 per day as soon as training is complete. He asks for ten or twelve immediately and

advises that he can use twenty more within ninety days. The American Mining Congress places all of this information in the hands of the Labor Department Committee, which is cooperating with the War Department in the placing of returned soldiers, but in the case of Dr. Day's communication, the information was placed directly in the hands of officials in charge of the reconstruction work among soldiers.

LEAGUES BY HEMISPHERES

Within the month the constitution of the League of Nations has been made public. Perhaps it is a misnomer to call it a constitution. It is rather an essay on international obligations and a declaration of purpose by different peoples, written somewhat in the form of a constitution. It is, all told, a curious document, tentative, optional in provisions, and the language is such as to take the teeth out of the whole instrument.

Still as a declaration of purpose its potentialities have alarmed the Senate and aroused the American people.

A critical study of the document itself taken in connection with the criticisms and explanation of it by the French and English shows that its main purpose is to make it difficult for Germany to get outside its territory and make it easy for the Allies to get into Germany over the territory of neutrals without violating their neutrality. As one Frenchman expressed it: The Allies have incorporated themselves and called themselves a League of Nations for the purpose of holding Germany perpetually at check.

If Germany is the only menace to the world of peace and if the aim is to prevent a repetition of the war of 1914 the present League of Nations probably serves that purpose. What arouses the alarm is the possible application of that European device to American conditions.

We have no Germany here that needs to be invaded or kept within its territory or bounds. In fact, the device does not fit conditions on the Western Hemisphere and is not likely to. At the same time, it is apparent that no device responsive to American conditions might possibly be advisable.

While admitting that the constitution does not respond to situations in the West, the people in the West are favorable to the purposes of the League of Nations. They are heartily sick of the war. They want to prevent its recurrence. They want a force that will hold the insane leaders of the world in check in case they should decide to plunge the world into another catastrophe. Therefore the western people are willing to use their force, whether military or economic, to that end.

As a net result of its thought on the subject, America is beginning to believe that instead of a League of Nations we need Leagues of Nations by Hemispheres. That is, the present constitution and method of procedure fits the situation in Europe and thereby fits the situation in Asia and Africa. However, a different constitution with a different method of procedure, although headed in the same direction, is needed for the League of Nations of the Western Hemisphere. For this reason the American people are beginning to believe that there should be two leagues instead of one. They believe there should be two constitutions and two methods of procedure, each responsive to the conditions which it attempts to control.

There is nothing inharmonious in this idea of two Leagues of Nations by Hemispheres. This is so because there is no reason why two leagues differently constituted could not cooperate to prevent the disturbance of the peace of the world by using both their economic and military forces in conjunction if the peace of the world were threatened.

The upshot of the matter is that while America subscribes to the theory of the League of Nations, it is not willing to surrender its Monroe Doctrine to become a part of a league which is designed to meet the European situation only. It will do the same thing, accomplish the same result, by having a League of Nations of the Western Hemisphere to cooperate with the League of Nations of the Eastern Hemisphere.

PETROLEUM PROVED TO BE LIFE BLOOD OF VICTORY

Allied Officials Pay High Tribute to Efficiency of American Oil Industry for Work Done During War.

How deliveries of American gasoline in quantities on the western front alone prevented alterations in the plan of campaign which forced the Central Powers to an armistice has been revealed in official documents made public by the United States Fuel Administration.

Less than sixty days before the armistice was signed, it was disclosed, the situation hung in the balance—just when the American people were accustoming themselves to their voluntary relinquishment of Sunday automobile rides, and the observation of “gasolineless Sundays.” But for this and other sacrifices, and the stimulation and direction of production, what might have happened was indicated in a blunt cablegram from Marshal Foch, saying simply:

“If you don’t keep up your petroleum system we shall lose the war.”

A still more serious cable was received October 1. It said, in part:

“Senator Berenger writes: ‘Highest command informs him that position has become so serious that change in military operations will have to be contemplated unless increased deliveries of gasoline at front are made possible.’”

Eighty per cent of the Allied requirements of petroleum products, the Earl of Curzon pointed out in a statement made November 21, was furnished by the United States, and Walter H. Long, British Secretary of State for the Colonies, sent special thanks for the work of the Fuel Administration in providing oil, and the activities of the American oil industry.

Of this fuel, of which the American people supplied four-fifths, Senator Berenger declared, “petroleum will have played as great a part in the victory as blood itself and will have proved the life blood of victory;” and Sir John Cadman, British Petroleum Executive, used identical words, writing: “Oil fuel was the life-blood of the navy.”

Appreciations of America’s splendid and successful efforts to provide this “life-blood” on land and sea also were received from E. D. Hewan, Oil Executive of the British Ministry of Shipping; Camillo Ceruti of the Italian military mission, and other high officials among the Allies.

The shipment of gasoline and other petroleum products so promptly and in such large quantities was made possible only by the patriotic efforts of the petroleum industry working through the National Petroleum War Service Committee in harmonious cooperation with the Fuel Administration.

PRODUCERS OF THE MORE IMPORTANT WAR MINERALS ARE TO GET RELIEF

Producers of manganese, chrome, pyrites and tungsten who lost money in their efforts to comply with government requests will be compensated if they can establish their claims. After much wrangling the conferees agreed to limit the metals to the four mentioned and the appropriation to \$8,500,000.

When the provision came before the House it was the occasion of extended debate. As representative, in a general way, of the arguments presented, extracts from the remarks of Representatives Wingo of Arkansas and Hamlin of Missouri, are reproduced in part. Representative Wingo said:

"I am in favor of the provision for two reasons. One of them is that I believe it is the duty of the Government, the same as an individual, to meet its moral obligations. The other reason is a practical one from the standpoint of the Government. The gentlemen arguing against this proposition say why do not you bring in a separate bill? If you vote down this proposition today and there is not some provision made for the settlement of these claims, mark my prediction, these valid contracts that no man can investigate and honestly say that the Government ought not to pay will be used as a peg upon which bad claims will creep to this House during the next fifteen or twenty years, and sooner or later you are coming in with an omnibus bill that will carry many times the few millions of dollars that will be paid out under this bill. I did not like to vote for the original bill, but I finally came to the conclusion it was to the interest of the Government from a monetary standpoint to clean these matters up now while the issues are fresh, while the officials are present and while all the evidence is available, to get them out of the way. Now, what is involved in this? The only question it involves is this: Are you going to undertake to meet the moral obligation of an informal contract, illegal contracts, if you please, made by one department of the Government, attached as a provision on a bill providing for the same kind of contracts in another department of the Government? If I had my way about it I would write a general bill which would require all these claims of every class to come in and be presented within the next six months and thus clean them up and get them out of the way and not consume the time of this Congress during the next twenty years in undertaking to consider the claims. Some gentleman said: 'What authority did these gentlemen have to make these claimants do what they did?' I will tell you what they had, the strongest authority that ever existed in this country,

the authority which existed during this war and that was the fear of your Government, the fear of being called a slacker. Why I know of one instance where one of these representatives went to a farmer who had a small deposit on his land and he said: 'You must either go to work and get this out or we will take charge of your farm.' He said: 'By what authority am I required to do that?' He had a copy of the bill that this House passed months before, and he said: 'This bill is still pending in the Senate, and the President has written a letter for it. It is going to pass. You will either do this or we will take away your property.' Tell me, is that not the strongest authority that any man would recognize during these trying times, the demand of his Government to do something for the prosecution of the war?

"Oh, but the gentleman says these claims are based on newspaper advertisements. I deny it. I am opposed to allowing such claims, and the pending proposal excludes them by limiting relief to claims based upon personal solicitations, personal inducements and personal orders of government representatives. I wish to God that every contract that will be settled under the War Department provision will be as clean as the contracts that Mr. Lane will settle under section 7. Gentlemen talk of the original bill that passed this House—the war contract bill—covering only those cases where they had a contract of some kind a little bit informal. Oh, no; you are going to take care of cases like this where a man, a department employe, sits here in Washington and calls up contractors and orders without limit their output. 'What is your price? We are not fixing any price: send in the goods and your cost sheets and then we will fix your price.' They will settle claims where there was not even a price agreed upon, in some instances. You tell me you are going to settle these claims and pay the bill and talk about the authority to settle claims with the little owners throughout the country. I have not one in my district of which I know. I would be ashamed of our Government if it should say it would settle the claims of these big war contractors and then say to a man like the old man Bill Oldfield talked about: 'There is no legal obligation; nothing but a moral obligation; and the Government does not meet its moral obligations.' A government that will not meet its moral obligations falls into contempt."

Mr. Hamlin, who opposed the relief asked, said, among other things:

"The other day, when this bill was brought to be sent to conference, I insisted that the

conferees ought to give assurance to the House that this amendment of the Senate, known as section 7, should not be agreed to in conference without first giving the House an opportunity to know something about it. I did not at that time say, and do not now say, that all these proposed claims are without merit; that the Government is not under a moral obligation to make compensation in certain cases; but I did say that we ought not to establish a precedent in this House of subjecting \$50,000,000 to the payment of claims, the validity of which the House had never for one moment considered one way or the other. Now, the trouble of the matter is that there is a wrong impression, in my judgment, in the House as to the character of claims which would come under section 7, as compared with those in the other portion of the bill.

"There is not a single proposition included in what is known as the war-validating contract portion of this bill, and which bill was carefully considered by the House, that does not rest upon a contract of some kind, either a perfected contract under the law or a contract informally made by some one who had authority to make a formal and valid contract. But the Secretary of War is not authorized to compromise and settle a single claim that does not rest upon some such contract. That is the point. The difference between that class of claims and those embraced in section 7 is that no contracts were ever made with these mine owners by the Government, neither could have been made, for Congress had not authorized them. If the Secretary of the Interior had wanted to make a contract with one of these fellows he could not have done so, because he was not authorized by law to do it. Consequently not one single one of these claims mentioned in section 7 rests upon a legal foundation, but if they exist at all they must rest wholly on moral grounds, and the fellows who are pressing these claims recognize that fact to be true. Why, bless your soul, as soon as this war-validating-claim bill was introduced in this House these mine owners made a grand rush upon the Capitol that would do credit to any football team in existence and landed down here in the conference room of the Bureau of Mine. Not knowing exactly what they wanted they proceeded to organize themselves into a convention, and after proceeding awhile they finally concluded, as one of them expressed it, that since other people are being taken care of by the Government he could not see why they should not 'get theirs'—that their claims were moral and the Government ought to acknowledge a moral obligation as well as a legal one. That is all there is to it. Now, it may be that there are certain circumstances surrounding some of these particular claims that would warrant the Government in paying them, but, gentlemen, we ought to safeguard that. If you are going to recognize

so-called moral claims that have no foundation in law, then where are you going to stop?"

Section 5 of the contract validation bill as reported by the conferees before the final change read as follows:

"SEC. 5. That the Secretary of the Interior be, and he is hereby, authorized to adjust, pay, or discharge any agreement, express or implied, upon a fair and equitable basis the amount or amounts of money heretofore invested or contracted to be invested and obligations incurred in good faith by any and all persons, firms, or corporations for producing or in good faith acquiring property for producing, within the United States, for the purpose of supplying the urgent needs of the Nation during the war, any ores or mineral substances mentioned and enumerated in the act entitled "An act to provide further for the national security and defense by encouraging the production, conserving the supply, and controlling the distribution of those ores, metals, and minerals which have formerly been largely imported, or of which there is or may be an inadequate supply"; approved October 5, 1918, the production of which was requested or demanded by the War Industries Board, the War Trade Board, the Shipping Board, the Emergency Fleet Corporation or the Department of the Interior and which has been performed in whole or in part by any such person, firm, or corporation prior to November 12, 1918; and that said Secretary ascertain, determine, adjust, liquidate, and, out of the moneys provided and appropriated by said act, pay to the parties justly entitled thereto the amounts of such losses and damages as he, the said Secretary, shall find and determine to have been sustained by reason of having made said investments for said purposes, and that in each case he shall make such determination, provision, settlement, advancement, or final payment, or by agreement with claimants take such other action as he shall find and determine to be just and equitable; that the decision and action of said Secretary in each case shall be conclusive and final; that all payments shall be made, and all expenses incurred by the said Secretary shall be paid from the funds appropriated by the said act of October 5, 1918, and that said funds and appropriations shall continue to be available for said purposes until such time as the said Secretary shall have fully exercised the authority hereby granted and performed and completed the duties hereby provided and imposed: *Provided*, however, that said Secretary shall consider, approve, and dispose of only such claims as shall be made hereunder and filed with the Department of the Interior within three months from and after the approval of this act.

That a report of all operations under this section, including receipts and disbursements, shall be made to Congress on or before the first Monday in December of each year.

That nothing in this section shall be construed to confer jurisdiction upon any court to entertain a suit against the United States.

COAL REGULATION ENDS;**NO PRICE CHANGES RESULT**

Suspension of maximum prices on anthracite coal together with all other coal and coke regulations except three, went into effect quietly February 1, following a blanket order issued by the United States Fuel Administrator, Harry A. Garfield. There was no appreciable effect on prices.

The only restrictions not suspended, as to coke and all coal, are:

Those requiring that contracts be made subject to maximum prices if reinstated, subject to cancellation by the Fuel Administration and subject to requisition or diversion of coal by the Fuel Administration.

Those prohibiting reconsignments of coal.

Those requiring shipments of coal to tidewater to go through the Tidewater Coal Exchange.

The tidewater and reconsignment regulations were retained at the request of the Railroad Administration, to avoid congestion of coal at tidewater, and the resultant embargoes.

Mr. Garfield's order includes the suspension of price and zone regulations on coke and bituminous coal which, it was announced January 17, would be effective February 1. As the Administration's control of the oil industry already has been suspended with the exception of certain natural gas regulations, the effect of the order was said to be that the Fuel Administration's controls are now relaxed to the present limit of safety, pending the proclamation of peace, when the administration automatically will terminate.

It was pointed out that as the responsibilities of the Fuel Administration under the Lever Act, continue as long as a state of war officially exists, any of these suspended regulations may be reinstated or others may be put into effect should occasion arise. An instance of the continuing activities of the Administration was found in its Bureau of Labor, which will function actively during the armistice. Any dispute failing in settlement between the parties at interest must be submitted as heretofore, to the Fuel Administration, for final disposition without stoppage of work.

OIL AND GAS CONCERNS**REQUIRED TO MAKE REPORTS**

Licensees engaged in the importation, manufacture and distribution of petroleum and its products and natural gas, from whom statistical reports have hitherto been requested, have been notified in an order issued by the United States Fuel Administration that all such reports must be filed on or before February 23, and that failure to do so will be treated as a violation of rules and regulations under strict enforcement. The order says:

"All licensees from whom statistical reports have heretofore been requested, to be made to either the Bureau of Mines or the United States Fuel Administration, and who have not



L. R. ATWOOD

Another of those long associated with the mining industry who rendered invaluable service to the Government during the war.

filed such reports, are hereby notified that all of said reports must be filed on or before February 23, 1919, that this order will be strictly enforced, and that any failure to comply therewith will be treated as a violation of Rule Ten of the Rules and Regulations Governing Licensees Engaged in the Business of Importing, Manufacturing, Distributing, and Transporting Crude Oil, Fuel Oil, Gas Oil, Kerosene, Gasoline, and Natural Gas contained in Publication No. 28 and issued on the 24th day of September, 1918, and will subject the violator to the penalties provided by the law.

"If good and sufficient reason exists why a report of any licensee cannot be furnished within the time fixed, an extension of time may be obtained, provided the application therefor is promptly made and such extension granted prior to February 23, 1919."

Natural Gas Regulations Not Cancelled

Owing to an apparent misapprehension in some quarters to the effect that the suspension of certain fuel regulations effective February 1 applied to commodities other than coal and coke, a statement was issued by the United States Fuel Administration February 11, calling attention to the fact that natural gas regulations were not cancelled by that order.

GENERAL MINERAL LEASING BILL TALKED TO DEATH BY LA FOLLETTE

Senator La Follette of Wisconsin took upon his own shoulders the responsibility for defeating the mineral leasing bill. He deliberately took up all the time allotted to the consideration of the measure, thereby making its passage impossible.

Senator Pittman worked like a Trojan in his effort to get action on the conference report. In one of his many speeches he said:

"The important part of this bill is the provision looking to the discovery of new oil fields. That was the purpose of the act. The Standard Oil Co. already owns under patents sufficient oil to satisfy its needs. It is the thousands of other prospectors in this country, it is the independents, whom you want to draw into this field of enterprise. Now, what is your plan? What is your plan of developing oil fields, of discovering oil fields? Do you think for one moment that the Government today owns an oil field? If it did, why does it not set it aside for the Navy? When their experts came before the Committee on Naval Affairs in regard to naval reserves they asked us to set aside 6,000,000 acres of oil lands described by geologists. Why do you not set aside 100,000 acres of that for Navy and develop it. They said, 'Because we do not know whether there is oil there or not. It will cost us \$50,000 a well to find out whether there is oil, and we may sink 100 wells and never find it.' Yet 6,000,000 acres of that land that the Government itself is afraid to prospect have been withdrawn from entry for nearly nine years. What is your plan for developing it? Have you got any?"

"I say to you this Congress has worked untiringly through its committees in attempting to devise a fair plan for the discovery of new oil fields, for the development of the so-called 6,000,000 acres of oil land. After six long years we have agreed on this plan, which is partial title and partial leasing. They allow a man to take a prospecting permit on the public land of not to exceed 1,280 acres, 640 acres if it is within 10 miles of a known oil well, or 2,560 acres if it is over 10 miles from a known oil well. He is required to develop that. He is required to expend his own money, his own time. If he makes a failure, he gets nothing. If he makes a discovery, the people of this country are enriched by additional oil supplies and a new competitor has been found for the Standard Oil Co.

"The Standard Oil Co. will acquire that oil? Yes; but for one-fourth that the man

gets a patent to, there are three-fourths that the Government leases and keeps under control forever through the leasing system.

"That only applies to discoveries, mind you. That only applies to something that the Government has not got. When you get down to the known oil fields, this straight leasing system and nothing but the leasing system, with perpetual government control, continues to exist under this bill."

SMOOT OPPOSES BILL

In opposing the conference report, Senator Smoot, among other things, said:

"I refused to sign this conference report. Having done so I think it no more than right that I should call the attention of the Senate to some of the reasons for my refusal.

"The Senator from Nevada (Mr. Pittman) says this bill has passed the Senate three times and the House three times. Mr. President, a bill has passed the Senate three times and a bill has passed the House three times, but the bill as reported in this conference report never passed the House until the conference report was adopted by it the other day and it has never passed the Senate.

"There is a provision in the bill as reported by the conference for leasing and for selling coal lands in the United States under certain conditions, but as far as the sale of coal lands under this bill is concerned there is no material difference from existing law. There is a difference from the wording of the law, but the result will be no change whatever.

"The Secretary of the Interior, through the Geological Survey, has made an examination of all coal lands withdrawn from entry, and if the examination is not made at the time a citizen of the United States desires to enter coal land, a request is made for an examination for the purpose of determining the value per acre of said land. When the Geological Survey makes a report upon the value of the land, then if the entryman desires to purchase at the valuation reported by the Geological Survey he has a right, or he and his associates, to enter 640 acres of coal land and purchase the same, provided the price per acre is agreed upon. But it is not mandatory upon the Secretary of the Interior that the price fixed by the Geological Survey shall be paid for the coal land. As I stated to the Senator from Nevada, I know of compromises that have been made and the lands have been purchased.

"We do not want to deceive ourselves in relation to this provision. It simply means that if the Secretary of the Interior does not want to sell any coal lands in the United States they are not going to be sold any more than they are today.

"I remember very well when the leasing system was first talked of in the United States. I was positive at that time that if the policy were proposed and there was opposition to it the domain of the Western States would be withdrawn and withheld from development until the people of those states yielded to a leasing system as demanded by the heads of some of the bureaus of the Interior Department. I was told that that would be the policy if it took 20 years to bring it about; and that was 12 years ago.

"I would prefer to say to my people: 'Bear your burdens a little longer; there is help coming.' I have not any doubt but that we could pass through the Senate of the United States today a bill giving to the states of the Union all the public lands in the states. I doubt very much whether such a bill could pass the House, but the sentiment in favor of it is growing, and when the people of the United States understand what the people of the West have passed through for the last 15 or 20 years I have too much confidence in the good judgment and absolute justice of the American people to think for a minute that they will not rectify the wrongs done."

NATURAL GAS ORDER MAY BE MODIFIED IN MIDDLE WEST

The United States Fuel Administration has under consideration an application for the modification of an order issued by it on December 12, limiting the supply of natural gas to be furnished during the winter months to various communities in Ohio and Indiana. A hearing on the question was held in Pittsburgh, but no decision was reached, because the officials of the company, through whose mains the supply flows, were unprepared to give an approximate estimate of the amount of the surplus supply which they claim to have at present, under the prevailing weather conditions.

The Reserve Natural Gas Company of West Virginia supplies the Logan Natural Gas & Fuel Company of Ohio, which carries and distributes this supply across the state, and delivers in turn to the Central Indiana Gas Company and other Indiana companies for distribution in that state.

The hearing held in Pittsburgh was called at the request of the Logan and the Central Indiana companies, who asked for a modification of the order issued by the Fuel Administration on December 12, which directed the discontinuance of supply during the winter to consumers classified in a lower class than

Class III, unless otherwise ordered. Classes I, II, and III include domestic and other uses defined as most essential.

This order was the result of a hearing held at the Fuel Administration in Washington on December 10. At that hearing it was conceded that the supply was inadequate during winter weather to meet the demands made upon it.

A decision in the matter was not reached at the Pittsburgh hearing, because the Logan Company officials were unable to give an approximate estimate of the amount of the surplus supply, which they claim to have available at present. Such an estimate is readily obtainable, and the officials have agreed to furnish approximate figures on the existing average surplus within a few days. While they declared that their surplus is sufficient to furnish a restricted supply to certain industries classed lower than Class III, it was pointed out that estimates of the probable amount of surplus should be prepared before details in connection with modification of the order can be decided.

Among those at the conference were the State Fuel Administrator of West Virginia, the Public Service Commissioner of Indiana, and numerous city officials from various communities in Indiana.

Tin.—The tin situation in this country continues inactive and unsettled, caused mainly by the large stocks in the hands of the Government and of large consumers, and the restrictions on imports, except ore purchases by domestic smelters.

In this country there are at present two companies prospecting tin deposits—one in Rockbridge County, Va., and the other in the Black Hills, S. Dak. The Virginia deposit, which was tied up in a legal tangle, was commandeered by the War Department, and later turned over to a Boston company to develop. Work was started about the first of October, 1918, to clean out some of the old workings, and was still under way at last report.

Near Hill City, S. Dak., the Cowboy mine, formerly owned by the Harney Park Company, was acquired by a St. Louis company about two years ago, and the work of unwatering the old shaft was begun. Financial difficulties caused the work to be suspended for a time, but it was recently reported again under way.

Gold.—With reduced purchasing value of the dollar most of the gold mines of the country have suffered rather severely. They have found difficulty in meeting the high wage scale in force at the metal camps; their operations have consequently been curtailed, and their profits have diminished. Gold miners have, however, a free market for their product, and any improvement in the labor situation is likely to be reflected in increased production of gold.

GOVERNMENT AID FOR GOLD MINING IS DISAPPROVED

Reporting to the Secretary of the Treasury on the gold situation, the committee headed by Albert Strauss submitted the following finding:

On November 2, 1918, your predecessor appointed the undersigned a committee to investigate present conditions in the gold mining industry and to study the problem carefully and thoroughly with a view to definitely ascertaining all the difficulties confronting gold production and submitting suggestions of sane and sound methods of relief.

The nature of the problem submitted to the committee was well stated in the letter of Secretary McAdoo to Delegate Sulzer of Alaska, under date of June 10, 1918, to which reference has been made in almost all resolutions or discussions of the subject since that time. That letter is reproduced herewith.

At that time the war was at its height and there was every prospect of a prolonged war. Contrary to the belief apparently entertained in many quarters, the structure of banking credit in any country during war time does not depend very much, if at all, on the amount of gold that can be made available as a reserve for that structure. Undoubtedly the rise in prices in this country since 1914 is to a great extent due to the heavy importations of gold during 1915 and 1916, but it does not follow that the export of a corresponding amount of gold at the present time would operate to bring down prices. As a matter of fact it is the judgment of this committee that it would not so operate until we have reached or approached normal peace conditions. In time of peace the gold reserve is undoubtedly an important factor in controlling the credit structure but in time of war that structure is determined by other causes. This distinction is sometimes overlooked and much inaccurate thinking is due to this oversight. Under war conditions the imperative necessity of the Government for the production of war essentials determines government expenditure, and this expenditure cannot be modified to meet the banking needs of the country; on the contrary, the banking policies of the country must conform to the fiscal policy of the Government. Under these circumstances, the only way in which the expansion of banking credits can be checked is by a reduction of civil demands to correspond with the expanding needs for government expenditure. The credit saved through this reduction of civil demands becomes available to the Government through the purchase of government securities, or through the payment of taxes. To the extent to which such saving and resulting investment does not take place, government obligations must be taken by the banks, giving rise to credits to the Government which create additional purchasing power for the use of the Government. This additional purchasing

power, in turn, competes with the demands of private individuals, driving up prices against the Government and against the civil consumer and ultimately impairs the individual's purchasing power to an amount roughly equivalent to the impairment that might better have been brought about through voluntary saving. The credit structure thus erected depends inevitably upon government needs and upon the willingness and ability of the community to impose upon itself voluntary restraint in expenditure. In other words, the structure will be high if the community fails to save.

The results in saving achieved in the United States were remarkable but no program of saving can be instantly put into effect and the expansion of the credit structure that took place under these circumstances was inevitable and could not have been controlled through any reduction in the gold reserve.

This being so and a long war being believed in prospect, it was important to maintain a strong gold reserve in order that there might be no impairment of confidence in the convertibility of our currency and in our ability ultimately to settle any international indebtedness in gold.

The cessation of hostilities has radically changed the situation, and, with the change in the situation, any need of particular effort to promote or stimulate our gold production which may have existed has ceased. There is now no danger of an impairment of confidence. The dimensions of our financial problems are becoming clear and we know that we can, without permanent strain, meet any financial requirement the Government will be willing to assume. Some further expansion of credit may result from our expenditures for demobilization and readjustment, but we can look forward to a comparatively early contraction of our credit structure with the attending circumstances of a free gold market and a gold reserve that shall once more perform its normal function of regulating credit conditions. That movement will, we believe, be both preceded and accompanied by lower commodity prices.

Under these circumstances there is in our opinion no need for artificial stimulation of gold production. Not only has any need therefor passed, but there have come into operation causes that will in due time restore all industry, including the mining of gold, to a normal basis. Gold mining will then become again normally profitable and respond automatically to normal stimuli.

It is therefore the judgment of this committee that no steps should be taken by the Government to stimulate or promote the production of gold.

The representatives of the gold mining interests very properly based their suggestions for relief on the public necessity for a larger production of gold and not on the hardships suffered by them as parties interested in an industry in which the margin of profit had

been rapidly shrinking, and in many cases had entirely disappeared or been turned into a loss. They recognized that such diminishing profits and such losses were inevitable under the shifting conditions of war, and that merely as producers they had no better claim to relief than any other section of the community suffering a reduction of profits or incurring losses under the changing incidence of war conditions.

In the course of its consideration of the subject referred to it, this committee has conferred with a committee appointed by the American Gold Conference held at Reno in August, 1918, under the presidency of Governor Emmet D. Boyle, of Nevada; it has had the benefit of the very complete survey of the conditions of the gold mining industry contained in the report dated October 30, 1918, of the committee appointed by the Secretary of the Interior to study the gold situation, of which Hennen Jennings, Esq., was chairman; and of the report dated November 29, 1918, of the Gold Production Committee appointed by the Commissioners of the British Treasury under the chairmanship of Lord Inchcape; they have conferred with or secured the views of Prof. Irving Fisher and other eminent economists, besides which they have had referred to them a considerable volume of correspondence expressing widely varying views which had been received by the Secretary of the Treasury and the Director of the Mint.

It is interesting to note that the British Treasury Committee arrived at the same conclusion as that which we have reached.

We cannot refrain from expressing gratification at the substantial unanimity of opinion among those whose position or experience entitles their views to respectful consideration against suggested measures of relief that would have had a tendency to undermine or upset our standards of value.

The report is signed by: Albert Strauss, Edwin F. Gay, Raymond T. Baker, Emmet D. Boyle and Pope Yeatman.

TIDEWATER SHIPMENTS NO LONGER MUST GO THROUGH EXCHANGE

The issuance of a formal order, effective after February 28, suspending an order requiring shipments of coal to tidewater to go through the Tidewater Coal Exchange, and also suspending an order prohibiting reconsignments of coal was announced February 21 by the United States Fuel Administration. Notice was given on February 17 that this order would be issued.

Suspension of the Fuel Administration requirements compelling shippers to operate through Tidewater Exchange in nowise affect the continued operation of the Tidewater Coal Exchange through any voluntary arrangements made by shippers and the Railroad Administration.

The order directs "that the order dated November 6, 1917, entitled 'Order relative to tidewater transshipment of coal at Hampton Roads, Baltimore, Philadelphia and New York, and for the employment of and cooperation with the Tidewater Coal Exchange, as a common agency to facilitate trans-shipment and to reduce delays in the use of coal cars and coal carrying vessels,' and the order of said Administrator dated January 31, 1919, prohibiting the shipment of coal for reconsignment, be, and each of said orders and the operation and effect thereof, is hereby suspended, until other or further order in the premises by the President of the United States, the United States Fuel Administrator, or other agency created by the President under said Act, in respect to all coal sold, shipped or distributed after February 28, 1919."

TO INVESTIGATE NATURAL GAS SITUATION OF ARKANSAS

At a meeting of representatives of those interested in the natural gas situation in the state of Arkansas, the United States Fuel Administration announced that it would be very glad to cooperate in an endeavor to ascertain the exact facts concerning the situation in that state. The assistance of the Bureau of Mines and the Geological Survey has been asked in placing at the disposal of the Fuel Administration some of their experts to serve on a board of investigation.

The conference was the result of the adoption of resolutions by the Arkansas Gas Users' Associations at Little Rock. In connection with the allegations made in the resolutions, it was decided that an investigation be made upon the following lines:

First.—Whether the Arkansas Natural Gas Company has made and is making reasonable efforts to obtain and maintain an adequate supply of gas (this to involve the question of the relations with other companies in so far as it relates to the amounts of gas obtainable from them or to be delivered to them).

Second.—The adequacy of the distribution system of the company considered in connection with the business offering to the distribution lines and the density of population of territory served.

Third.—Whether the company has used and is using due diligence to maintain its property in reasonably good operative condition, and is the line of reasonably good construction.

Fourth.—What is the probable life of the territory from which the Arkansas Company is now drawing its supply, and are wasteful methods being practiced in that field, and by whom?

The conference was attended by officials of the Arkansas Gas Company, also by the state fuel administrator of Arkansas and his executive secretary, and by the secretary of the Gas Users' Association.



SENATOR HENDERSON

Who made a strenuous effort to put through the potash bill and who now is urging the War Trade Board to restrict potash imports.

J. O. LEWIS NAMED CHIEF PETROLEUM TECHNOLOGIST

J. O. Lewis, superintendent of the petroleum experiment station at Bartlesville, Okla., has been appointed chief petroleum technologist of the Bureau of Mines, Department of the Interior, in place of Chester Naramore, who has resigned from the government service to join the Union Petroleum Company, with headquarters at Philadelphia, Pa.

Mr. Naramore joined the petroleum division of the Bureau of Mines September 26, 1916, and on January 1, 1917, was placed in charge of the entire petroleum work, succeeding W. A. Williams.

In addition to being the executive officer of the petroleum division during a time of war when the demands on the petroleum industry were larger than ever before, Mr. Naramore saw overseas service as a representative of the United States Shipping Board and Fuel Administration, and held conferences with the allied nations at London, Paris and Rome on an adequate supply of petroleum for all the allies. The results of this work are said to have been a factor in the winning of the war.

Mr. Lewis, his successor, is a graduate of Stanford University in the class of 1909.

After graduation he worked in the geologic department of the Associated Oil Company of California, during which time he made a study of the oil operations in the California field as well as in the Calgary fields of Canada during 1914. Mr. Lewis came to the government service on October 1, 1914, and served as oil and gas inspector at Muskogee, Okla., for one year. After that he was transferred to the Bureau of Mines staff, where he continued his investigation in behalf of the industry. On January 1, 1918, he was transferred as superintendent of the petroleum experiment station at Bartlesville, which position he held until his appointment as chief petroleum technologist. He is the author of a number of publications of interest to the petroleum industry, such as Bulletins 134, "The Use of Mud-Laden Fluid in Oil and Gas Wells," and 148, "Methods of Increasing the Recovery of Oil from Wells," and Technical Paper 130, "Underground Wastes in Oil and Gas Fields and Methods of Prevention."

Mr. Lewis will be succeeded at Bartlesville by W. P. Dykema, petroleum engineer of the bureau.

DISPOSAL OF GOVERNMENT'S NITRATE IS DECIDED UPON

A meeting for the purpose of taking up the matter of the disposition of surplus stocks of sodium nitrate in this country was held in the office of the director of sales and was attended by a representative of the War Trade Board, a representative of the War Industries Board, and Nitrate Committee, and representatives of the sales office.

It developed at this meeting that the Government has a surplus of approximately 226,000 tons of sodium nitrate in the United States and 120,000 tons in Chile. It was decided that the importers should dispose of the surplus in this country and that the Government should endeavor to dispose of the surplus in Chile to foreign interests. A committee was appointed by the Nitrate Committee to draw up an offer to the Government to buy the surplus nitrate, the Government to allow them a certain fixed amount per ton to cover cost of selling.

The operation outlined is simply a continuation of the method under which the consumers have obtained sodium nitrate through the importers since November, 1917. The same importers who brought the sodium nitrate into the country for distribution to consumers are now disposing of the surplus on exactly the same basis as previously outlined by the War Industries and War Trade Boards. The importers, who will have the responsibility for the sale of the surplus, are still held out of the primary market for shipment to the United States pending the distribution and sale of this surplus, or until import restrictions are removed by the signing of peace.

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PERKIN MEDAL AWARDED TO DR. FREDERICK G. COTTRELL

Dr. Frederick G. Cottrell, Chief Metallurgist of the Bureau of Mines, Department of the Interior, has been presented with the Perkin medal for distinguished service in chemical research. Dr. Cottrell, in accepting the honor, outlined certain investigations now being undertaken by the Metallurgical Division of the bureau, which, if successful, will result in a real revolution in the fundamental industries of the country.

Dr. Cottrell, in telling the chemists of this important work, said in part:

"When, at the suggestion of Sir William Ramsay, the British Admiralty first studied the possible use of helium for balloon purposes they felt that the expense of production would be prohibitive. First, on account of the great scarcity of the element and the very

great dilution in which it was found in the atmosphere (1 vol. in 250,000) and in other gases; and, second, because of the expense of the processes of separation then known to the Admiralty.

"When this information came to the U. S. Bureau of Mines it was remembered that some of the natural gases of Kansas had been found by Dr. H. P. Cady, of the University of Kansas to have over 1 per cent of helium in them. The separation of helium from these gases could best be accomplished by the same general processes of liquifaction and distillation as are used to separate air into its nitrogen and oxygen for industrial purposes.

"It so happened that the Metallurgical Division of the Bureau of Mines had been making a study of these processes in the hopes of finding a way to sufficiently cheapen the production of oxygen from the air to allow its general use in metallurgical furnaces and other large scale chemical and industrial operations. If this were possible it would work a real revolution in these fundamental industries. Take, for instance, the smelting industry alone. We now concentrate everything that goes into the furnace (coke, ore, fluxes, etc.) except the oxygen of the air, which we add with four times its volume of inert nitrogen and thus undo much of the effect of the concentration of the other constituents. If we could use pure oxygen, or more concentrated air, a great saving could be effected, and we could do in combustion furnaces much which is now only possible in the electric furnace.

"One of the processes which the Bureau had felt had much promise in this direction had not, up to this time, received any large scale development, but now these facts were all called to the attention of our army and navy, who immediately jointly appropriated first \$100,000, and afterwards further sums now aggregating over \$1,000,000, for trying out the project not only along the line of the new process but also parallel therewith by the older and better known processes as well, and entrusted the general direction of this work to the Bureau of Mines.

"The plants on the older processes are already producing helium in large quantities, and the one on the new and what it is hoped may prove several times more economic basis, is just about to have its practical production test.

"If it fulfills anticipations, its significance is far wider than the production of helium, for it will open the possibility of oxygen in quantities at costs undreamed of by most chemists and metallurgists."

Alaskan Assessment Work

The House, on February 17, passed the resolution suspending assessment work in Alaska until January 1, 1920.

POTASH BILL CAUGHT IN LEGISLATIVE JAM DURING LAST DAYS OF SESSION

Senator Henderson's potash bill died with the Sixty-fifth Congress. The bill came before the Senate on the call of the calendar but Senator Walsh objected to its consideration on the ground that it is too important to pass without deliberate consideration.

After hearing the opinions of the representatives of the domestic potash producers, the Senate Committee on Mines and Mining reported favorably Senator Henderson's bill providing for a licensing system. The plan is designed to safeguard the domestic industry for two years in the expectation that by that time it would be able to meet foreign competition without tariff protection.

Limitations have been placed on price and not more than one-third of the appropriation is to be expended in any one fiscal year.

Nathan H. Gellert, of Philadelphia, made the following statement to the committee:

"The blast furnace has been mentioned as a source of potash. It perhaps holds one of the most unique positions in potash manufacture in that it is at the present time perhaps the largest producer of potash without getting anything from it. You do not have to change the blast-furnace operation to manufacture potash, because investigations carried on by us indicate that every blast furnace we have ever had anything to do with is making potash now. It is merely a question of collecting the potash that is made. Heretofore the blast furnaces have realized the necessity of cleaning gases and have installed various wet systems of cleaning the gas. These systems are highly expensive, and they are figured in as fixed charges in the cost of operating the furnace and furnish no by-product. Dr. Cottrell, of the Bureau of Mines, several years ago invented a process for collecting dust and fumes from smoke and gases. This process has been developed with a good deal of success for the elimination of the dust nuisance in cement plants and the consequent recovery of potash.

"The first three precipitators of that type to be used in blast furnace work are now under process of construction. While there has been no big work in the collection of potash by the dry system, two blast furnaces are already installing these units. Our investigation on these blast furnaces shows that there is a possible recovery, with a 200-ton furnace, of a ton of potash when it runs on basic iron; 2 tons of potash when it runs on spiegel; and 3 tons of potash, approximately, when it runs on ferromanganese—that is, per day.

"We have conducted experiments with four precipitators in actual running on a semicommercial scale, which indicates that we can recover a dust running as high as 29 per cent of K_2O , which is higher in potash than material directly from the Alsatian mines. It is necessary to clean the gases; the gases are all inflammable and contain a large amount, in the form of gas, of the coke put in the blast furnace. It is no small factor of economy in iron manufacture, the cleaning of gases by the wet process, because of lack of byproducts, and it reduces the temperature of the gas and consequently there is a tremendous loss of money because of the lack of byproduct and less of sensible heat. If you can clean the gases in their hot, dry condition, you keep all of that heat. We have several blast-furnace men watching very carefully and eagerly the work we are now doing in Dunbar, from the American Manganese Manufacturing Co., and also some work which we are doing in Alabama. Our men are down there now investigating some of the blast furnaces every day.

"Our preliminary investigations, while we have not checked them, indicate that some of those ores run $1\frac{1}{2}$ per cent of potash, or nearly seven times as much as some of the northern ores. It would be extremely difficult to figure out what it cost to produce potash in a blast furnace. You could not charge up the potash with any of the actual cost. It is necessary to clean the gas, independent of the potash, and our figures still are not conclusive, because they are not based on actual large commercial operation; our figures indicate it would not cost any more to use a precipitator than to wash the gas with water. Therefore, you can really say that the potash costs the iron producer nothing.

"It will be extremely difficult, if not impossible, however, to interest the blast-furnace operator in the installation of a potash-collecting device unless he feels—because there is an element of risk in it—that he will get a rapid and large remuneration when once the industry is started, once his initial investment has been paid off, and he is operating it, and it becomes just an everyday affair with him, and when the market, after five years, becomes purely a competitive one with the foreign market, you will have established perhaps the only source of potash that can be sold at an extremely cheap price, and even produce potash at a price lower than any price Germany can set on its own potash.

"Now, the ores in this country, those that we have examined, indicate that the blast

furnace alone, if every blast furnace in the country became a collector of potash, could supply practically the entire needs of the country. It is not possible, of course, to figure that every blast furnace in the country will become a collector of potash, but between the cement mills and the blast furnaces you will have a source of potash that can readily compete, after it has been established, with the German potash. The blast furnace, of course, produces its potash at practically nothing; the cement mill, of course, produces potash at a cost, as the charge of the collection must be put against the potash.

"We have some people who are very much interested in blast furnaces, people very much interested in installing precipitators. When the armistice was signed there was practically no market for potash, and we have offered 125 tons of dust containing 12 per cent of potash for sale, and we cannot find a market for it, although we know potash is needed in the country. When this market was entirely broken up, these blast-furnace operators simply said, 'Well, let's wait; let us see. What do you think potash is going to be selling for?' Well, it is impossible to estimate. I told them that perhaps it might go as low as \$1 a unit, and they are not interested—\$1 a unit, with the risk of the cost of the investment; and while we have not proven that this precipitator can do the work, it seems it can, but yet there is enough element of risk and they will not put up the money."

W. E. Sharp, of Lincoln, Nebr., in the course of his testimony said:

"What the effect might be in event this or some similar measure were not enacted I could not tell. The potash companies do not want to liquidate, as do the manganese, chrome, and pyrites. Sometimes when you are in the middle of a stream, you find it is about as far to turn around and go back as it is to go on. American potash producers have invested almost \$50,000,000 in their industry, and believe they need but two or three years to reach a basis that will enable them to compete with German potash. To turn back and liquidate would cost the Government almost \$50,000,000; yet the Government by safeguarding the industry temporarily can enable it to become in two or three years a permanent one, supplying our entire domestic demand, and rendering our country entirely independent of foreign potash.

"If those are called, the potash goes into the market. If the American plants now facing bankruptcy are wrecked by war-prisoner Germany potash, it means that next year we are in such position that we will have to buy the foreign potash almost exclusively, and when that time has come and the industry is killed in this country, then who will say what the price is going

to be? How much can the foreigner raise the price? And who will say, if we get into another war, where we will get the potash if the American potash-reduction plants are now destroyed?

"Therefore, they ought to be kept in existence and the industry stabilized under the provisions of this potash bill.

"American potash producers do not want to ask for liquidation; we just ask to live, just to be safeguarded two years until our plants are on a basis to successfully meet German competition.

"And I want to know if that isn't the true American spirit? We have not asked for any assistance from the Government in financing these plants, although the Government went out, as you know, to the coast and put in a plant itself to help recover kelp potash because of its necessities. We simply say to you gentlemen that we want you to allow us to produce potash and live until we are established with our industry."

Senator Henderson, in opening the hearing, said, in part:

"This committee is here to inquire into the possibilities of an independent American potash production. In a general way we have assimilated the doctrine that Germany, and only Germany, can produce the potash which this country requires. We know, in a general way, that potash is an absolute essential for the production of cotton, on which the world largely depends for its clothing. In a general way we know that on potash we rely for the full capacity of our soil's agricultural production. Also, in a general way, we know that on potash we depend for our war-time ammunitions, and that there would be no shrapnel or high explosives without it. We know that potash is a most necessary ingredient in the process of gold production. We shall expect you gentlemen to inform us intimately with the uses of potash in all of these directions.

"Generally, we are informed that on account of the dire need of potash, American ingenuity has to some extent met the situation. We know that the Geological Survey, the Bureau of Mines, and the Bureau of Soils have investigated the potash possibilities of the country, and have paved the way for a domestic production. We understand that the refuse from sugar mills, blast furnaces, and cement plants contain a large quantity of potash which can be saved against the needs of the country. We know that at Searles Lake, and in Nebraska, in Utah, and elsewhere, there exist immense deposits of potash in varying form. We understand that all of these can be sufficiently developed to a point where the United States will be dependent on no one for its potash, and we hope you gentlemen may point the way.

"We have been informed that some millions have been invested with a view to domestic

production of potash. A large part of this money was spent on account of our war-time necessities, but it appears we have an opportunity to save this money from being checked off as a war waste, and redeem it for the victories of peace.

"There are at present at this hearing representatives of all of the potash producers of the country. At least, all of the industries producing potash have their representatives here. The Government experts are also here. The committee would like to hear from you all. I will say that it was an occasion for amazement to me to learn that Alabama, California, Colorado, Illinois, Louisiana, Massachusetts, Maryland, Minnesota, Montana, Nebraska, New York, Ohio, Pennsylvania, Wisconsin and Utah were potash-producing states. Certainly where there are so many of our states, and in such widely distributed localities, in which potash can be produced, it is the part of wisdom to foster the industry, and rear it jealously. We must have the chemical. If it can be produced in this country, we should do it, and we look to you gentlemen to point the way.

"Congress should be informed of conditions in this regard; we should know exactly where and why we need it; we should know where and how it can be obtained in this country, and at what cost, and we should do all in our power to render America independent of the world, so far as potash is concerned."

Coal Loadings

A report has been received by the Director General from the car service section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for the week ended February 1, 1919, as compared with the same period of 1918. A summary follows:

	1919.	1918.
Total cars, bituminous.....	139,947	168,064
Total cars, anthracite.....	35,465	34,825
Total cars, lignite.....	3,276	4,658
Grand total of all cars, coal..	178,688	207,547

A summary of reports for week ended February 8, 1919, as compared with the same period of 1918, based on actual reports from most roads, but with the results of some roads estimated, follows:

	1919.	1918.
Total cars, bituminous.....	134,039	179,069
Total cars, anthracite.....	28,112	31,626
Total cars, lignite.....	3,565	5,172
Grand total of all cars, coal..	165,716	215,867

**COPPER SITUATION DISCUSSED
BEFORE SECRETARY OF LABOR**

As a result of conferences between officials of the Department of Labor and delegates representing the workers in the copper industry of Montana, Utah and Arizona, the men have appointed a permanent joint conference committee, which is empowered to confer with the managers of the industry with a view to establishing a working agreement for the delicate period of readjustment on a peace basis.

The men adopted resolutions urging Congress to pass such legislation authorizing government aid as will furnish long term credits to facilitate resumption of our export trade in raw materials, agricultural products and manufactured goods, and recommending to Secretaries Baker and Daniels to hold the copper stocks they have on hand for the army and navy.

In the opinion of Labor Department officials, the most important result of the conference has been to promote a spirit of cooperation between the owners and employees in the industry. John D. Ryan, president of the Copper Export Association, met the men, and without reserve laid his cards on the table, revealing to the men the critical situation in the industry, which must result in a complete shutdown of the mines and smelters unless through mutual assistance of employers and workers the business can be tided over the next few months. The men presented the serious condition of unemployment prevailing in the copper districts.

The men returned to their respective districts to lay the facts before their fellow workmen. No definite agreement was made, because the labor delegation had no legislation or treaty powers, but was invited to Washington by the Secretary of Labor simply to learn the actual condition in the industry. Having done so, they will report to their principals and convey the desire of the Government that they await with forbearance the passing of the temporary crisis, in the full and reasonable expectation that conditions will be remedied in the near future.

During their stay in Washington, the labor men interviewed the senators and representatives of their respective states, and have recommended to them the passage of laws extending financial aid to banks and trust companies for the purpose of helping American industries. They also called on Mr. Burleson, Postmaster General, to urge him to enter the market for copper products for use in the wires and cables under his control.

The Department of Labor was represented in the conference by Secretary Wilson, Felix Frankfurter and H. L. Kerwin, assistants to the secretary, and Hywel Davies, Federal Labor Administrator for Arizona. Eugene Meyer, Jr., represented the Treasury Department.

MEETING COAL'S IMMEDIATE NEED

BY GEORGE H. CUSHING

The coal trade wants to be profitable; for the first time in its history, it had an opportunity—while the war lasted. It has had a taste of what it means to make a profit on every ton of coal produced even though it had the annoying experience of handing over a bigger portion of that profit to the Government in form of taxes. Nevertheless it knows now what it means to make money. It wants to continue to make money.

But with the passing of the war which created demands larger than the supply, the coal trade is confronted by the inherent difficulties of its position. Operators know today that the production, or at least the potential production, is larger than the market can absorb. In seeking a profit it is confronting the towering difficulty of trying either to persuade the unnecessary mines to retire, or to persuade those mines, if they continue in existence, to cut their production down to a point where the market can readily absorb the coal that is produced. This is almost an insuperable task.

But if that is not done—if production is not cut to a point where it equals exactly the demands of the country—the coal industry is facing destruction as a result of too active competition.

Standing at a point where insolvency seems to face it in either direction it turns, the coal industry is in a mood to try almost any kind of an experiment which will bring reasonable safety out of the present situation.

To one who stands on the side line and watches the method of procedure the situation seems to be about as follows: The coal trade made a certain amount of money during the war. This money is in part available to the coalmen to spend in some way. They can dissipate these accumulated earnings by fierce and riotous competition which will have the virtue—if it is a virtue—of returning it in cut prices today to the people from whom, by the process of high prices, it was taken a short while ago.

The alternative method is to invest a part of this money in the maintenance of associations which shall try to bring the coal men into a mood for cooperation, through which not only the old money may be retained but new money added to it.

The question before the trade is whether this alternative method can succeed. Therefore the question is: Is this not merely a new and modern method of losing the money which was accumulated as profit during a flurry in the trade?

Before the industry goes on any kind of a debauch in the matter of expenditures it would seem worth while to sit down calmly and reason the situation out by starting at the very fundamentals of the industry and coming thereby to understand the position in which the trade finds itself.

The essence of the law of supply and demand is that the price of a commodity shall fluctuate between profit and loss in direct response to whether the commodity itself exceeds or falls short of the demand. That is, if the supply exceeds the demand then it is a buyer's market. In such a time by shopping among over-zealous producers the buyer with an order to place usually succeeds in getting a rock-bottom figure. This in the end results in unprofitable business for the producer.

But if the demand exceeds the supply, as it did recently in coal, exactly the opposite thing occurs. Anxious buyers bid against each other for the insufficient supply and contrive to put up the prices upon themselves to the resultant profit of the producer.

The present fact in coal is that there are about seven thousand shipping mines. However, there is about business enough to keep four thousand five hundred shipping mines in operation. Therefore when there are seven thousand possible sellers trying to divide among themselves the business which only four thousand five hundred mines can easily satisfy, the present situation in coal is perfectly obvious and, indeed, unavoidable. It is toward that destructive level of prices which must ultimately terminate in the elimination of the weaker mines.

Of course, the situation could readily be solved and the industry could be put upon a profitable basis if a convention could be held in which the situation was described and in which the twenty-five hundred unnecessary mines could be persuaded to shut up shop and go into some other business. But few business men can be argued into an abandonment of a business enterprise in which they have invested money.

And, since all coal mines are unwilling to go through the experience which is necessary to eliminate the weak sisters forcefully from the business, it has been considered expedient to undertake a sort of cooperative movement in the trade.

The minute the facts are presented and that proposal is put forward it becomes apparent that the real purpose of cooperation is in some way to nullify the law of supply and demand and thereby to give a price to all operators which is profitable to all of them, notwithstanding the fact that the number of mines in existence is 50 per cent in excess of the number that is actually required.

With that frank statement of the obvious purpose of cooperation made, some fundamental questions are raised about the proper relations between the industry and the public, especially as that public is represented by its government.

In all of those courts which have been called upon to interpret our anti-trust laws, the common definition of restraint of trade

has been the ability of producers or merchants by any device to influence the price of any commodity to the whole people.

That is, if there are 50 per cent more mines than are necessary, and if the competitive spirit among them were allowed free play, the result would be a price for coal which must in short order eliminate from business those companies which had such short purses they could not longer endure the loss. Therefore, any device—whether a movement in cooperation or any other—which holds up that price to a point where it avoids the obvious consequences of too many mines, is properly a movement in restraint of trade, no matter how innocently that movement is phrased.

By the same decision of the same court a trust agreement is declared to be that device by which companies in the same line of business, which are independent of each other as far as financial control is concerned, allow their minds to meet in such a way as to accomplish a restraint of trade.

The courts have gone so far as to say that an agreement of this kind can be established on circumstantial evidence. That is to say, if there are seven thousand mines and only business enough for four thousand five hundred indicating a price which must eliminate some, and if the price remains high regardless of the fact, and if there exists an association or other convention of business men in that industry, the circumstance is *prima facie* evidence that the association or convention is responsible for the unnatural result.

In this connection attention is called to the fact that the Sherman anti-trust law is the expression in the statutes of the Federal Government of the will of the people on this subject. It is very specific in terms. It has not been repealed.

In addition, there was enacted in the first Wilson administration the Clayton law, which strengthens the purpose and intention of the Sherman anti-trust law by inveighing against unfair competition or against those devices by which the unnecessary units in a business are eliminated therefrom.

On these accounts the coal man stands face to face with the specific prohibitions of the law against the very things he wants to do to put his business immediately upon a profitable basis without first going through the ordeal of eliminating, by vigorous competition, the unnecessary units in the trade.

There is no contention here, and so far as I am concerned there never will be a contention that the coal industry is studiously setting out to create a combination in restraint of trade. It may, in its anxiety for its continued solvency, be led unwittingly and innocently into a movement which has all the outward appearances of such a combination. If so it will do so through ignorance and as a result of unenlightened leadership rather than through any willful effort to evade the law.

Coal men will not attempt anything in

the line of trustification because it knows that there is not available to it a single one of the devices which made successful any of the so-called trusts in the United States. That is to say, before a successful trust can be organized one of three things necessary to a successful trust must be available to those who undertake it, namely:

First, it must be possible to control the total supply of raw material; or

Second, it must be able to control the process of manufacture of raw material into the essential finished product; or

Third, it must be able to control either the machinery which makes possible a necessary economy or it must be able to control the patent under which those machines are made and thus come to control the machinery itself.

None of these things is possible in coal. The raw material is the coal itself in the ground. That cannot possibly be controlled because there is too much of it and because if it were purchased at so low a price as one cent per ton in the ground, and if the annual production were six hundred million tons a year the interest charge alone on the investment would be \$2.00 a ton of coal production.

Coal cannot control the process of manufacture because there is no manufacturing process in the coal business—at least, as at present constituted.

Coal cannot control the machinery in the coal business for many and obvious reasons.

On these three accounts the coal trade hasn't a single element in it which makes for the natural and assured success of movement in trustification.

But even if it had available to it one of these processes, it would be foolish to try to use it, because all of these methods have been tried out by men who are far more clever than are the coal operators. And every time such an effort was made the United States Supreme Court found the joint in the harness and succeeded in putting the trust out of business. So any attempt at trustification of bituminous coal is nothing more than a waste of time and effort for very obvious reasons.

Still, as I have said, the essential purpose of the movement of cooperation as outlined up to this minute is to effect the equivalent of the restraint of trade by getting a profitable price for coal regardless of the fact that the potential production in it is 50 per cent in excess of any known or immediately possible demand.

This effort of the coal industry is expressing itself in a veritable orgy along the line of organizing various associations. That being true, the serious question which confronts the industry is whether it is not wasting its substance and dissipating its recently accumulated earnings by financing organizations which cannot possibly per-

form the function for which they were created.

I have been perfectly astounded within the last month to discover the extent to which coal men are going in spending their money in support of these various cooperative movements. Roughly speaking, it is easily susceptible of proof that the coal industry is today collecting and spending at least a million dollars a year—I am convinced the sum is much larger—to support various kinds of associations. And the movement, rather than abating or showing any indication of abating, is actually growing.

For example, there are three national associations in three branches of the coal industry which are collecting for their support, at least at present, \$450,000 a year.

There are at least twenty local or district associations of operators which are collecting and spending at least \$300,000 a year for their support and maintenance.

There are at least ten state associations of retailers which are collecting and spending at least \$100,000 a year for their support and maintenance.

There are other associations of various kinds all having the same purpose in mind which make up a miscellaneous total outlay which will bring the gross expenditure of the national industry to at least a million dollars a year, or the equivalent of two mills per ton of annual output of bituminous coal.

I am perfectly willing to admit that such an outlay would be easily justified if the end sought was the natural outcome of the effort. I go so far as to say that if the average selling price of coal could be influenced as much as one cent per ton the outlay would be justified because the investment would yield a return of 500 per cent. But unless it can be proved that these efforts are in any sense effective in their essential purpose, the coal trade is merely fooling itself and wasting a million dollars a year in consequence.

I do not want to be understood as declaring against the association movement. On the contrary, I am heartily in favor of it. Indeed, in this argument I am trying to protect it.

What I am trying to say is this: If associations cost too much and do too little, or do nothing at all, the coal men are soon going to be heartily tired of the whole thing. Therefore, there will be a revulsion against the whole association movement. Thus will be destroyed an instrumentality which in itself is tremendously valuable if it is properly used. The great danger is that not being properly used and costing too much money, the coal men will come to decide that it has no value whatever and thereby will come to abandon the association effort for something which will do what coal men know must be done.

My effort, therefore, is to improve the

purposes of associations rather than to eliminate them. My purpose is to put the association movement in line to make itself useful and practical instead of encouraging it to be wasteful and despised.

That brings us to the question:

What are the proper purposes of association in coal and what can they do to justify themselves?

On this score I take a very common sense position.

The operator is essentially interested in the production of coal. The association which represents him, therefore, should be expressive of his natural interests and therefore should concern itself mainly with improved methods of production and with cutting of the cost of production. It should strive for economy in output.

The association of wholesalers is necessarily a merchandising organization. It should struggle toward the improvement in merchandising methods and in cutting the cost of selling coal at wholesale.

The retail association is naturally concerned with the retail distribution of coal. It should struggle for an improvement in retail methods and the economical operation of retail yards.

When it comes to questions which concern all three branches of the industry—such as conducting negotiations with the railways over rates and practices, such as encouraging helpful legislation or discouraging destructive legislation, or such as engaging in proper publicity for the industry—there should be a cooperative movement among the three branches of the trade that thereby the industry may speak with one voice on questions which are common to all of its branches.

When we get into that zone there is found an objective which will more than justify the present outlay of money for these various associations. That is to say, it is a poor operators' association which cannot, by study, enable its members to adopt those methods which will cut the cost of production by more than one cent a ton.

It is a miserably poor merchandising organization which cannot devise those methods which will cut the cost of merchandising by more than one penny per ton.

And that national association of retailers is a miserable failure if it cannot suggest and devise those means by which the cost of retailing coal is reduced by more than one cent a ton.

Still, we have for all three associations today a total appropriation which amounts to but two mills per ton on the total production. Yet we have easily possible economies which will effect the saving of vastly more than three cents per ton. Therefore, the return on the investment in association is easily 1,500 per cent.

My conclusion from this study is that the whole efforts at cooperation, and even the extent of that effort is justified if the movements are in the proper direction. But having looked over the program of the various associations, I am not convinced that present efforts are along any line which justify any expenditure whatever. Therefore, my personal opinion is that the various associations must change their objectives very quickly. If they do not, the whole movement is in danger.

JOPLIN DISTRICT PRODUCERS ORGANIZE ZINC CHAPTER

For the first time in its history The American Mining Congress has suspended its well-established practice of organizing state chapters, and has chartered a distinctly specialized chapter composed of the zinc producers of Oklahoma, Missouri and Kansas, known as the "Joplin District."

This chapter was completed January 28, 29 and 30, at a series of meetings of the district operators, held in Joplin and attended by Secretary Callbreath, of the Mining Congress.

The program included addresses by R. C. Allen, of the Federal Tax Commission; H. A. Buehler, state geologist of Missouri, and Hon. A. Scott Thompson, chairman of the Mines Taxation Committee of The American Mining Congress.

Visits were made to the mines of the district and a study of the properties and methods employed was made by Mr. Allen, who was the mine valuation expert of the Treasury Department during the administration of the first war revenue law.

Banquets and luncheons were given to the guests of honor, and after a study of the zinc situation, Secretary Callbreath accepted the suggestions of the Joplin producers and assisted in the organization of a tri-state chapter, to include only zinc producers.

The following officers and committees were named:

Governor, Victor Rakowsky.

Vice-Governors, F. N. Bendelari, Oklahoma; P. B. Butler, Kansas, and Howard I. Young, Missouri.

Executive Committee, Howard I. Young, P. B. Butler and F. N. Bendelari.

Membership, Finance and Subscriptions Committee, Charles E. Schwarz and Edgar Wallower.

Statistics and Economics Committee, A. E. Bendelari, H. I. Young and P. B. Butler.

Safety and Sanitation Committee, C. F. Dike, T. F. Coyne and D. D. Dunkin.

Legislation Committee, T. J. Franks and J. W. Hoffman.

The following editorial comment on the

chapter, published in the *Joplin Globe*, is of interest in this connection:

'It has always been the history of this field that in times of prosperity it has been impossible to get zinc ore producers to work together, while in times of poor ore prices it has seemed as if nothing could be accomplished. It has been a little like the old story of the Arkansas man who wouldn't fix his cottage when it wasn't raining because it didn't need it then, and couldn't fix it when it was raining.

"The organized zinc ore producers may not be able to take a hammer and saw and fix up all the leaks in the zinc ore industry right away, but they can at least come nearer accomplishing something worth while along this line than if they act as individuals. They don't really know how much good they can do organized because they have never tried it.

"Increasing the uses of zinc is almost certain to continue to be the big opportunity and hope in the industry. Lower prices for copper and tin and other metals mean that the zinc producers must go to a little more effort to accomplish all that ought to be accomplished in this direction, but if they will turn to the task with a will, they can do much. On the other hand, if they fail to try, zinc ore prices are in danger of being unsatisfactory for a long time.

FEDERAL TRADE COMMISSION EXPLAINS NEW COST REPORTS

Notice to bituminous operators concerning the purpose of the 1919 form of cost reports has been given by the Federal Trade Commission. It is intended that companies producing 60,000 tons and over per annum should report all of the details shown on the balance sheet and on schedules Nos. 1 to 18, inclusive, and that companies producing less than 60,000 tons per annum should report all of the details called for on the balance sheet and on schedules Nos. 1 and 1A and Nos. 11 to 18, inclusive. The latter companies may report as one figure for each schedule the information on schedules Nos. 2 to 10, should their records not furnish the details called from these schedules without an undue amount of labor.

The information called for in the cost form furnishes, in the opinion of the Commission, the main outline necessary for a uniform cost-reporting system or cost-accounting system for the coal industry.

The accounts as outlined on this form are not considered to be all of the details which might be necessary or valuable to each or every operator but are only the controlling main items which it would be essential for the officials of the company to have before them at all times for the efficient operation of its properties.

INDIVIDUALISM VS. PATERNALISM

BY THOMAS A. O'DONNELL¹*Formerly Assistant to Oil Director of U. S. Fuel Administration*

I have no scientific knowledge regarding the oil business. I was raised in the oil fields of America, and sold papers on the streets of Bradford, Pennsylvania, forty years ago, and have been pretty much in sight of oil derricks ever since.

When the fuel administration was organized and they established an oil division, and honored one of California's citizens with an appointment as director of that division, I was asked to go back there and assist him as director of production in connection with the problems of petroleum in the necessity that was then confronting the nation. The work has been very interesting to me, and I feel rather proud of the accomplishment of the petroleum industry of America in meeting the national needs under stress.

There was nothing that entered into the problems of war of greater importance than petroleum. All modern war equipment, either for lubrication or power to drive itself, depends upon petroleum. All of the damnable inventions of humanity leading to the destruction of life were propelled by petroleum. There was organized on the western front by the American and allied forces one of the greatest mobile transportation systems that ever was gathered together in history, and was largely a factor in the making effective preponderance of the Allies, all due to the wonderful supply of petroleum always available back of the lines. The use of petroleum by the allied armies and for commercial purposes in this country grew to the astounding figure of 1,200,000 barrels per day. We produced in this country about 960,000 barrels a day. We were getting 140,000 barrels a day out of Mexico, and drawing to the extent of about 100,000 barrels a day from our stocks at the time the armistice was signed. With all of the difficulties in a commercial sense, with all of the uncertainties as to supply and labor, and all of the problems involved in the uncertainty of results in the drilling of our wild-cat wells, the United States went through the war with a production practically equal to any time in its history, notwithstanding that at the early stages of the war it looked very much as if we would be drawing on our stocks in an excessive manner that would be dangerous if the war lasted for a few years. The business was in a healthy shape. We were at the time of the signing of the armistice having more or less problems in connection with the gasoline supply, but we were prepared to take care of them in all of the requirements that would probably have arisen.

The world could not have built sufficient aeroplanes to run out of gasoline from America. We were there with the goods.

Feeling as I did when going to Washington I was very much elated and pleased to realize that Mr. Requa, who was at the head of the division, agreed with me that it was no time to experiment in government direction; that if we were going to succeed it was necessary to get the cooperative, active, energetic assistance of the American producer of petroleum. There was organized at that time what was known as the National Petroleum War Service Board. This board early in its history consisted of about twenty men gathered from the industry, its various branches, from all parts of the country. This board was frankly a trade representative board. I want to say here, and I want to repeat it at every opportunity that I may have, that America should be proud of the kind of men who devoted their services to the petroleum industry of America. The service was absolutely unselfish. It had one great dominating feature, and that was, "What is the proper thing for the industry to do in our national need?" Men were asked to go to their boards of directors with a request that they appropriate millions of dollars to carry out projects that would be useless after the war was over; and there was at no time anybody asked to do that or to create facilities who hesitated a moment as to whether they would do it or not if they could be shown that it was needed. It was frequently said, when we asked such organizations as the Standard Oil Company, to put fifteen or sixteen million dollars in additional pipe line, which would be useless after the war, "That is nothing for them. They can afford to do it. Those things are only relative." It is quite true, that is so; but it was done without hesitancy. For two or three months I felt that the time had come for the first time, when a republic, such as ours, was to be put to the test of whether or not this kind of government could succeed; and I am sorry to say that I sat there many a night when I felt like crying for the hopelessness of the confusion that we were drifting into. I believe that that was largely due to a false conception of American citizenship and American business men. It was brought about by that frame of mind that believes in this modern improve-everything method, that it was unsafe to turn over to the man who had to do with production or business the solution of the problems of his particular business. If the thought should prevail that any large part of the citizenship of this country, be they

¹ From an address before the California Chapter of The American Mining Congress.

oil men, mining men or steel men, are unfit to go to the center of government, and there direct the problems involved in their particular line of business in the national interest, then God help this country—we never will stand. There gradually commenced to be order brought about out of the confusion at Washington; and that was largely due, gentlemen, to the conviction which dawned upon a lot of our American people, that you had to call to your assistance men who knew the problems that you had to solve. In handling the petroleum production of America one of the proudest distinctions that I claim for myself is that I never issued one single order to the producers of America. We had many problems, some of them very annoying, and I established the policy of going to the seat of the trouble. I have traveled a distance as great as several times around the world. I, perhaps, have met more producers of oil in America than any other one man in the nation at that time; and I addressed the producers, or whoever it was that the problem involved concerned, "Now we want you boys to sit around this table and find a solution, not for the best interest of yourselves individually, or your industry here, but in the national need;" and I tell you it is a great satisfaction to a man as an American to feel that it was done in the way it has been done.

I am a little apprehensive—nobody much agrees with me lately—they say I am old-fashioned—I don't know whether "reconstruction" is the right word or not—but of the frame of mind that is prompting a great deal of the oratory that I have heard since the signing of the armistice, and that is along the line that the war taught us so many things that we have been doing wrong, and that now they are going to change the whole business and do it right. I have little sympathy with that idea. We have been told that this method and the other method was the proper one to pursue; the Government should take a greater control of things generally, and direct the people in proper channel. I am not for it. I believe that we gathered together for the purpose of war four million of our young manhood, who can go into any part of the world, I care not where, where human beings can live, and they can out-fight and out-do all comers. Is that because of the blood that is in us? You know there are thousands, even millions of us, that have a little German running through our veins; there is a lot of Irish; but we have been building in this country one of the greatest people that has existed in all history. And why? Because it is one of the countries through all history that has most promoted individual effort. I had some occasion to know about the problems even across the water, although I was dealing with the production in this country. The transportation problems got to bothering the English, and the English government wanted a pipe line across England, and wanted it quick; and

they sent over here to get some men to build it quick and right. In France they were having trouble in transportation of petroleum, and troubles back of the line, and we sent over men to do it for them. They had troubles in their harbors, unloading their ships, and we sent them men to do it for them. It looked at one time as if old Hindenburg had his eye on Paris, and they had to have a railroad around it, because all railroads in France start in Paris, and they turned the job over to Pershing, and he built it. When Russia was in trouble we sent them men to solve their transportation problems. The whole world thinks of no other place to send for men to do any thing that they want done. Now they don't send to paternalistic Germany—and Germany was largely paternalistic, looking after its citizens better than any nation on earth, from some people's standpoint. They would feed you and give you a place to lie down, and then they would give you a mark to walk on. What I object to is the mark to walk on. We have built this country up on the opposite basis. You know they say the modern things, the great machines, modern business, and all of these things need organization; "We must have the Government do it for us. They must direct us in certain channels." I used to drive an old horse and cart through the oil fields of Los Angeles twenty-five years ago, and I would rather crawl into that two-wheel cart behind that old horse, which was mine, to get in when I wanted to, and out when I wanted to, than to ride in the finest limousine that science has ever devised, with a driver and crew to take care of it, with feather cushions to sit on, if some one is going to tell me where and when and how I go. Now you know this brings back something. They say it is very injudicious for me or anybody else to criticise some of the things that we are proposing to do in this country for fear of spilling the beans. I have been spilling the beans ever since the war started, and the constructives have been picking them up and putting them back in the bag. Coming back to the socialistic trend of paternalism, we are drifting toward that goal. It is a frame of mind that ran riot in Russia, but it has been growing here and in every other country on earth to a large extent; and it is impractical idealism that you are going to make something out of humanity that it aint. So they are going to fix us now in Washington. I think the work has passed. I do not regard, as many men do, the confusion in Russia, except I have a heartfelt sympathy for the poor fools that have got to submit to it. I think it is a lesson to the world of the impracticability of that kind of thought, that the bottom can run the top, or that the Government can run things for us. You know we just got rid of the thought in this world that divine right permits a man to tell all humanity where to head in. Now, I am just as ap-

prehensive of a self-appointed intellectual right to tell us where to head in. It is dangerous. Men sit in closed-up closets and they get to thinking so hard that they make up their minds that the whole responsibility for humanity is on their shoulders. Those men are dangerous. I don't care what their intentions are toward you. The Kaiser, I have no doubt, had the very best intention toward his subjects; but he believed that it was in their best interests to go where he told them to, and to walk when he told them to walk, and to fight for the fatherland when he told them to fight. I was down in Atlantic City not long ago and Henry L. Dougherty asserted that there were no more Democrats who believed in the Jeffersonian doctrines because in all the papers that Jefferson ever wrote there was a strain running through them that that country is the best governed which is governed the least. I am that kind of a Democrat yet. Now, as to this disease of socialism. You know I have a right to talk in the interest of the fellow who crawled up from the bottom. I helped my poor old mother to make a living when I was ten years old. We lived in a tent in the winter time in the state of Colorado. The next spring we hauled down some slabs from an old sawmill and built us a little hut, and that old lady is alive today and happy and contented, and she had an absolute horror of any of us children being taken to a state institution, and, thank God, we never were. It sounded bad. We didn't have any butter or sugar to eat during that winter, but we are all alive, and we were happier than if we had been taken to a marble palace by some paternalistic government and raised with a spoon the rest of our lives.

Socialism has been creeping in, in thought at least, to our governmental bodies, our executive halls, if you like, and it has been expressed at the expense of the oil men of California and Wyoming. I went to Washington to try and save a life's earnings involved in that business. I became a convert finally, for a very selfish reason, to the system of leases and royalties. If I had to do it over again I would go back and scratch and build another log cabin before I would do it. The foundation of socialism underlies the thought that the things that are in the waste, undeveloped soil belong to all of the people, whether they take part in their development or not. It is false. The things on this earth were put here to be used by him who exerted his energy to make use of them, and not for the whole people. It is just as socialistic in principle, and will finally lead you where the Russians are today, to say that the people in New York state should have a royalty, or any kind of a double tax, from the oil lands of the United States in California because the Government still has them in its possession. It is wrong. It is wrong in principle. It would be a godsend, financially, to the men

who have been struggling nine years with these lands here, but the principle is wrong, and it is going to get us in wrong if someone sooner or later does not assert himself in the halls of Congress and get back to the idea of home rule. (That is an Irish term.) The leasing—the idea that a part of the wealth of the west is for the benefit of all the people—is destructive, not because of us fellows engaged in the development of that oil, but of the principle underlying the spirit of individualism in this country. What the Government ought to do is to establish law and order for the protection of property among men and reward those who go out and get it. The same principle, if established sixty years ago, and applied to agriculture and metal mining, as it is now sought to apply it to oil, there wouldn't have been a railroad west of the Mississippi river today. The very development we have there is the result of that human incentive to do, and the happiness of life is in the doing of it.

There has very little occurred yet in America that has been very destructive, but it is a dangerous thing; it is creeping in on us; every orator that you hear nowadays is telling you "The country has done that," and "The Government has done this, and individual effort cannot do that." They tell us they are going to take over the railroads and run them, because it is the only government that is not doing it—and I thank God for it. They are doing it in Mexico and Spain. It may cost us more; it may cost us a little more man power, but you know, we talk too much, in my judgment, about doing away with work. Some seem to think that God Almighty made us, and that the best thing for us is to sit down and do nothing. The fact is that there is no life of any kind, whether a human being or what it is, but needs activity for good healthful growth. He don't thrive on idleness. Idleness in human beings creates viciousness and decay; and most of us, in addition to that, have a streak of vanity; and one of the things that prompts us to do the things that we do is to be able to say we did it ourselves; it is ours; I have got it, and then I can take it in my hand and show it to some woman. You know God made men and he made chickens, and they are a good deal alike. Have you ever noticed an old rooster; how proud he was and how he threw his chest out after he had finally scratched out a crumb to show to some hen.

DISCOVERY OF PETROLEUM IN ENGLAND REPORTED

The United States Fuel Administration received information by cable, February 22, concerning the reported discovery of oil in England, it was announced today. The cable advices were to the effect that considerable gas had been found, but no oil had yet been struck.

COAL PURCHASING POLICY OF RAILROAD ADMINISTRATION SET FORTH IN DETAIL

Walter D. Hines, Director General of Railroads, has outlined the coal purchasing policy of the United States Railroad Administration as follows:

The policy of the Railroad Administration is to avoid any action calculated to depress wages of coal miners or the amount of coal produced.

Sometime ago our attention was called to the fact that there was a concentration of orders for the Railroad Administration in certain fields so as to leave other fields without railroad orders. We promptly met this situation by giving instructions that coal should be brought as far as possible by each railroad on its own railroad.

The point was also made that we were using our storage coal to such an extent as to reduce very largely the current production. We promptly met this by giving instructions that we should diminish our withdrawal of coal from storage and use a large amount of current production.

It was also claimed that the Railroad Administration was trying to force down prices to such an extent as to bring about a decrease in the price of labor. We met this point not only by requiring the wider distribution of purchases already mentioned, but also by providing that we should not suggest any prices to the operators and to stipulate that any prices named by the operators must be based on existing wages.

The point has also been made that publicity ought to be provided in the obtaining of bids and making of contracts. We have met this point by providing that any prices which are established will be available to representatives of the miners or others who may be interested and who may request the information, both as to prices and as to the names of the sellers.

This represents our general policy, which is actuated by our earnest desire to protect the general situation. The Railroad Administration has a very important selfish interest to accomplish this, because whatever will protect the general situation will help general business, and this is of vital importance to the Railroad Administration.

It is very important, however, to bear in mind the fact that the Railroad Administration's part in these matters is much more restricted than is generally assumed. Only about one-fourth, or a little more of the total bituminous coal production, is consumed by the railroads. To a very large extent the mines, whose output can actually be used for railroad purposes, is restricted on account of the quality of coal needed. A further important point is, that at the request and, indeed, at the insistence of the Fuel Administration, the Railroad Administration has made contracts for a large part of its coal, with the

result that only about 20 per cent of the coal used by the Railroad Administration is not covered by contract. Naturally the contract coal cannot be modified except with the consent of the operators.

Moreover, the very large amount of storage coal which the railroads have accumulated was accumulated at the request of the Fuel Administration, and while we are endeavoring to use this storage coal in such a way as not to embarrass the situation, the fact remains that the coal is there and must be consumed.

It must also be remembered that the volume of coal which the Railroad Administration consumes is limited by the volume of business, and as business is now falling off, this operates to reduce the volume.

It seems to me we have met substantially the various needs that have been presented to us. The only other possibility that occurs to me is that if the operators with whom we have made contracts for about 80 per cent of the coal are willing to release us from those contracts, we will be glad to distribute that coal among the various mines which can produce the necessary quality of coal and which will be willing to sell at the same prices we have under the contracts.

DISPOSAL OF GOVERNMENT'S METAL STOCKS DISCUSSED

Two meetings were held recently in the office of the director of sales on the disposition of surplus stocks of copper, brass and lead. The meeting, with regard to the lead situation, was attended by members of the sales office, a representative of the Geological Survey and representatives of the lead industry. At this conference it developed that the surplus quantity of lead in possession of the War Department is a very small proportion of a year's production. While the figures are not yet final, on the basis of present information, the department cannot have more than a few thousand tons to be disposed of ultimately. This quantity represents the surplus of lead in possession of the War Department which was all located by the Lead Producers' Committee, at the instruction of the Ordnance Department, for use on cost plus contracts.

Although the details of the arrangement have not yet been worked out, it is practically agreed that some arrangement can be made between the War Department and the lead producers by which the surplus stocks of lead now in the hands of the War Department may be gradually fed into the market without affecting market prices and market conditions.

The meeting on disposition of the surplus brass and copper now on hand in the various

bureaus of the War Department was attended by representatives of the copper industry and members of the sales office. The representatives of the War Department, while anxious to prevent loss to the Government on this material, realize that it would be injurious to the industry and especially to the workers if the market prices were upset by throwing this surplus on the market over a short period. Such action would also tend to reduce market prices and thus defeat the desire to obtain for the Government a fair price for this surplus stock.

This meeting was merely a preliminary one, at which only a small percentage of producers was represented, but the discussion of the question will undoubtedly lead to an agreement with all producers which will permit a gradual feeding into the market of the surplus copper and brass in such a manner as to obtain fair prices for the Government without upsetting the market. The details will be worked out later with a full representation of the producers concerned.

SURVEY GATHERING DATA ON MINERALS OF WORLD

George Otis Smith recently addressed the following letter to the mining engineers of the country:

"In connection with a special investigation made during the last year the United States Geological Survey has accumulated data descriptive of the mineral deposits of the world, both developed and undeveloped. It is the purpose to continue the collection of information of this type in recognition of the present need to know better the mineral resources of the world with which our own mines are in competition and which also offer opportunity for investment of American capital and engineering talent.

"The larger mining corporations and many mining engineers and geologists have already contributed generously to the Survey's file of digests of reports and it seems logical that the records thus obtained should be made available for those interested, but in view of the nature of the records and the continual additions made to them, publication is not practicable, so the plan is to have these files open to all mining engineers and geologists who are studying the mineral resources of any country or district. J. B. Umpleby is the geologist in charge of the part of the Survey organization devoted to foreign mineral deposits and he may be consulted regarding these files. It will also be a pleasure to me to correspond with you regarding the data the Survey already possesses on any district and especially regarding any contribution you or your associates may be able to make that would add to the value of these files. It is an opportune time for American mining men to pool their information, but any confidential data that the contributor may desire to be made use of only by Government geologists will con-

tinue to be so treated and not included in the open files.

"I am of the opinion that our science must be put on a broader foundation if it is to be of greatest usefulness in furnishing facts to the builders of industry."

LOUISVILLE NATURAL GAS ORDER AGAIN IS UPHELD

A decision by Judge Thomas of the Court of Appeals of the State of Kentucky, at Frankfort, denies an injunction against an order of the United States Fuel Administration to effect equitable distribution and conservation of the waning supply of natural gas. This decision sustains a similar decision of a month ago rendered by Judge Kirby in the Circuit Court at Louisville.

These decisions deny the motions made on behalf of the city of Louisville and the Rev. J. M. Maxon for an order to restrain the Louisville Gas & Electric Company from rationing the supply of natural gas to consumers in Louisville.

The rationing order of the Fuel Administration provides that each consumer shall be permitted to burn not to exceed 1,000 cubic feet per day, unless permits for additional amounts needed are obtained from the Federal Fuel Administration for Kentucky. It also provides that "whenever the supply of natural gas is in excess of the quantity required to fill the demands therefore within the limit hereby imposed, the companies may make a pro rata delivery of such excess to their consumers."

During last winter's severe weather the demand was in excess of the supply which flowed through the main leading from the West Virginia fields to Louisville. During the summer the city attorney of Louisville and others requested the Fuel Administration to take action which would prevent suffering from shortage of supply in case of another severe winter. The order to accomplish this result was issued after a conference held at the Fuel Administration on October 10 and 11.

This conference was attended by more than a score of leading officials interested, prominent citizens of Louisville and well-known experts in natural gas affairs. It was shown that 8 per cent of the Louisville consumers have been using 50 per cent of the entire quantity of gas consumed in the city. Ninety-six and one-half per cent of the consumers use an average of less than 1,000 cubic feet a day each. The number of consumers who were using more than an average of 1,000 cubic feet a day was only about 1,500.

Further Suspension of Assessment Work Refused

On February 17 the House declined to allow the passage, by unanimous consent, of the bill suspending assessment work until the close of the current year.

WANTS STANDARDIZATION OF PETROLEUM PRODUCTS

In an endeavor to bring the specifications for petroleum and its products into harmonious relation one with the other in the different states, the United States Fuel Administration has sent a letter to the governor of every state in the Union in which is enclosed a memorandum concerning the laws in each state as to gasoline inspection, and also copies of the bulletins issued by the Committee on Standardization of Petroleum Specifications.

This committee for months has been investigating the question of specifications for gasoline and other petroleum products. The most expert authorities in the country have been in consultation and a series of standards are gradually being developed which are being put out from time to time in bulletin form.

The memorandum prepared regarding the laws of the different states covering gasoline inspection, show that the specifications vary to a great degree in different localities. It is believed that such conflicts tend to make the product cost the consumer more money without an equal offset in advantages. Common standards, the Committee on Standardization contends, both as to method of test and quality, would result in much better service to the public.

In the appeal made to the governors of the various states for cooperation, it is pointed out that while the Fuel Administration will cease to function when peace is proclaimed, the Committee on Standardization of Petroleum Specifications is to continue in existence six months after that time.

GAS SITUATION IN MIDDLE WEST DISCUSSED AT HEARING

In connection with the question of adequacy of supply of natural gas available for distribution in Ohio, Indiana and West Virginia a hearing was held February 17, at the William Penn Hotel, Pittsburgh, Pa.

The hearing was called at the request of the Logan Natural Gas & Fuel Co., of Ohio, and the Central Indiana Gas Co., who desire to show that the situation in that vicinity in regard to adequacy of supply of natural gas now warrants certain modification of an order issued by the United States Fuel Administration on December 12, which directed the discontinuance of supply to consumers classified in a lower class than Class III until April 15, 1919, unless otherwise ordered.

The State Fuel Administrators and the Public Service Commissioners of the states of Ohio, Indiana and West Virginia, which are dependent chiefly for their natural gas supply upon wells in West Virginia, were present.

The Reserve Natural Gas Co. of West Virginia supplies the Logan Natural Gas & Fuel Co. of Ohio, which carries and distributes this supply across the state, and delivers in turn to the Central Indiana Gas Co. and other

Indiana companies for distribution in that state.

The order issued on December 12 was the result of a hearing held in the Fuel Administration building at Washington on December 10. At the hearing it was generally conceded that the supply was inadequate to meet the demands made upon it from consumers in Classes 1, 2 and 3. These classes include domestic consumers and other uses defined as most essential. This order met general approval of the authorities of the communities served, and these now protest against its withdrawal as being detrimental to domestic consumers. The service companies mentioned, however, declare now that the situation has changed sufficiently to warrant certain modifications of the order.

PERSONALS

Pope Yeatman has leased permanent mining engineering officers, and on and after February 27, any mail for Mr. Yeatman or for his partner, Edwin S. Berry should be addressed to Room 708, 111 Broadway, New York, instead of to 60 Broadway, as at present.

J. T. Connery, of Chicago, was in Washington several days during the month.

A. Scott Thompson, chairman of the Committee on Revenue Legislation, for The American Mining Congress, has returned to his home, Miami, Okla., after being at the Washington office for several weeks.

Hennen Jennings is in California, where he will remain for several months.

Bulkeley Wells, president of The American Mining Congress, spent the greater part of February in New York and Washington.

Victor Brandt, who has been in Washington in the interest of the potash producers, has returned to California.

Edison Storage Battery Company announce the removal of their New York sales office from 209 West 76th Street to 247 West 35th Street, where larger and better quarters have been obtained.

Jerome J. Day, of Moscow, Ia., was elected president of the Idaho State Mining Association, to succeed Stanly A. Easton, at the meeting of the Association, held at Boise, February 12. J. B. Eldridge was elected vice-president, Ravenel Macbeth, secretary. The executive board elected is as follows: James F. McCarthy, Wallace, Ia.; Irvin E. Rockwell, Belleview, Ia., and W. N. Sweet, of Boise.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

RAILROAD COAL PRICES

The one fact about which there is no dispute in connection with coal is that in a mine the cost of production of any ton is equal to the cost of production of every other ton; that is, the cost must be averaged over the entire production to arrive at the cost of production of any one ton or of the average ton. That is to say, the miner does not, at the beginning of the day, say: "We are working today on the fulfillment of railroad contracts and, therefore, we must charge a certain wage." The next day, the miner does not say: "We are working now on the production of ordinary steam or gas coal and, therefore, we must ask and expect to get another wage." Neither does the miner say: "Today we are working on the production of domestic coal and, therefore, since it sells at a higher price, we are entitled to a higher pay." On the contrary, the miner says: "I am working on the production of coal. I get so much per ton regardless of the class of trade to which the operator sells that coal and regardless of any use that is made of that coal. It takes the same amount of labor to produce railroad coal or steam coal or domestic coal. I am being paid for my labor. I expect, therefore, to get paid for my labor at the rate of wages stipulated in the agreement."

Certainly, it is true that the cost as expressed by machinery and supplies is the same regardless of the kind of coal that is being produced or the use to which it is put.

If the labor cost is the same on all coal, and if the machinery and supply

cost is the same, and if the overhead and selling expense is the same, then it must remain true that the cost of producing coal is the same regardless of the use to which it is put or the price at which it is sold. The upshot of the matter is that it costs as much to produce railroad coal as it does to produce domestic coal. About that subject there can be no possible dispute.

However, the railroads of the United States have insisted for years that they should get a preferential price on coal. Curiously enough, now that the railroads are controlled by the Government of the United States and now that the Government is the buyer, it is insisting that it shall be given a preferential price on coal. Incidentally, the preferential price demanded is one which does not return to the operator his cost of production on the railroad coal.

It is interesting to follow that proposition through. The railroads of the United States use a third of the total production of coal of the United States. Therefore, if railroad coal is sold for less than cost of production, this means that the operator must run a third of the time at a loss or produce a third of his total tonnage at a loss. At any rate, it means that he must build his business on the assumption of a loss on a third of his tonnage. It is impossible to suppose that a business concern can continue in existence for any length of time with an assured loss on its books. Therefore, it is fair to assume that this loss and some profit to the operator must be made up in some way.

When it comes to a point of making up that loss, there are only two directions in which the operator can recover. He can charge all of that loss against the general steam and domestic business or he can charge it entirely against the domestic coal output.

In view of the fact that prices which the railroads pay become, automatically, the prices which the steam users pay, or at least a guide to those prices, this system means that the loss on the railroads' tonnage and on the steam tonnage is automatically transferred as a burden upon the domestic users of coal.

In plain English, this means that the householder pays more than he should because the railroads pay less than they should. Or, to put it another way, it means that the householder is compelled by this arrangement to pay his own fuel bill plus a part of the fuel bill which should be paid by the railroads.

Under the Government ownership of railways and under the plan of the purchasing department of the United States Government, this means that the present administration is consciously taking the position that it will buy coal for the railroads at less than cost of production and then compel the householders to make good the deficit to the mine operators.

In opposition to this theory, the operators have taken the position that every tub must stand on its own bottom and that the railroads must pay at least cost of production in order that the householders may not pay an unduly high price for their fuel.

If the railways were still under private ownership and direction, the insistence upon such a purchasing policy might not be considered unusual. Every business man is naturally expected to buy his supplies at as low a price as he can get. But, to say the least, it is amazing to find the Government pursuing in behalf of a Government-owned industry a policy which discriminates in its favor as against the big bulk of customers of such an important industry as coal.

READJUSTMENT (?)

With the steel industry agreeing to a readjustment of the price schedules in order that the building trades may begin to move and many thousands of idle or half idle men be furnished employment—and with certain of the labor organizations announcing a determination to increase labor cost and shorten producing hours, the United States is watching the beginning of a struggle which may lead to the final working out of the post-war problems in a most unexpected manner.

Labor itself usually finds great satisfaction in holding out to public view all of the sins of omission or commission of "Big Business" as a horrible example of what would happen if "the money power" of the country should suddenly assume control of business and politics. Just how labor, speaking collectively, can explain the attitude of certain of its leaders at this time will be interesting to know. The nation has been—is still—at war. While actual fighting was going on the men at the helm allowed nothing—even extraordinary demands of labor—to stand in the way of successful war-making. The war, technically speaking, is not over, but already the war-weary peoples, including our own, are hectically trying to get back to normal or to a semblance of normal in commerce and social life.

We call it a period of "readjustment," and we theorize upon how best to turn back to the old ways—which all of us realize is quite impossible. When war began the nation strained every nerve to bring itself up to the highest point of efficiency. Everything began to climb together. Not one element of human life remained at a standstill. Every day the strange line moved upward one step. It was natural, inevitable. Simultaneously the Federal Government started the producing machinery of the country toward higher speed. Every man and industry was urged to the utmost: If it was a manufacturer he was soon putting in every cent of unused surplus in adding to his production. If he was a mine owner he was—if his mine represented war needs—spending his own

and other's money opening up every pound of material that could be found. Idle money came out of hiding places and even conservative bankers urged their clients to get under the Government to establish an impregnable nation and destroy the Hun menace.

Many lines of necessities were advanced in price because of extra demand. Labor began to demand more money on account of the cost of living. Increased wages forced all prices upward. Even public service cost more and soon the laboring man and the millionaire got used to paying the extra toll.

And labor! Did it move with the procession? Well, perhaps not in isolated cases, but there seemed to an observant man to be a most unchecked epidemic of "getting ours" in the shipyards where the men were riveting ships to carry food and soldiers to France and where thousands of poor fellows patriotically starved themselves upon a meager ten to thirty dollars per diem. It wasn't the shipyards alone. It was not alone in the government managed plants nor on the railroads (where it was openly boasted by thousands that they liked the government management because they were for the first time getting a just share of the "big profits"). Everybody was doing it.

There is a man still living—a valued government employe—who owned some houses and lots in Washington. His business saneness is still questioned by respected friends because he refused to advance his rents 100 per cent, as did his neighbors. And it was so that the men who didn't get "in" on the going game were looked upon as strange characters.

Did Labor fail to take advantage of the "going up" idea? Not that any observant persons could notice.

And yet, only in extreme cases could the severest critic charge profiteering of an illegitimate character. It was the tendency, and therefore excusable.

But—today it is different. The entire line of industries stands upon the highest step of the ascent. Does anyone want everything to remain there? Can commerce resume and competition assume

its place in the establishment of domestic and international business? If not, can any one commodity start down the descent alone?

Can Labor remain at the top and arbitrarily refuse to move with the other commodities to the next lower step—and the next?

Can Capital afford to meet all of the losses to be sustained? Does Labor intend that it should? Will Capital continue to carry the burden if Business finds itself minus the profit which is its due in ordinary times? If Business withdraws Capital, and Industry ceases to fight for a resumption of Commerce, who will pay Labor? If Labor is idle, what then?

There have probably been many men in business, large and small, who have treated Labor inconsiderately. We admit there have been many, but shall Labor be excused for trying at this hour of national peril to exact more than its due? Might it not be well for Mr. Gompers, instead of academically discussing the downfall of the Bolsheviks, to retrace his steps and say to Business: "Labor will never again be oppressed to minimum wages, but Labor holds our national interest as paramount—hence, Labor and Capital—Industry—will step down the scale on the level. We will go as far as Industry will go. We will meet every condition necessary to putting the United States once more upon a solid footing."

Good logic, isn't it? And good business, too, and in the final analysis that is the one way in which America can readjust herself to post-war conditions.

WHICH WAY, PLEASE?

The interesting experiment of the United States Government today is put out under the label of the Redfield plan. The interesting thing about this is that it isn't the Redfield plan at all, but a Department of Labor plan promulgated through the Department of Commerce in order to allay any suspicion which might attach, naturally, to a labor program which has as its principal objec-

tive the security of wage contracts until peace is signed.

The essence of the so-called Redfield plan is about as follows: Prices have gone up as the result of the war. Wages of labor have also gone up as the result of the war. Ultimately, both must come down as the result of a return to peace. The question is:

"Which shall come down first?"

The business man is disposed to say that he cannot bring his price down until the cost of labor has come down, because, otherwise, he would lose money for the benefit of labor. Therefore, the labor price should come down first and the commodity price can come down as a result of a reduction of labor. Labor is disposed to say that it cannot accept a lower wage when it has to pay high prices for its commodities. To do that would be to reduce the compensation of labor below the point where he could meet his living expenses.

The Redfield plan presupposes that the producer shall go without a fixed profit or, perhaps, any profit at all for a period by a reduction of prices to a certain level. That will, automatically, bring down commodity prices in the United States and will, automatically, supply the reason why, ultimately, labor should accept a lower compensation. It is that program to which business in the United States is expected to subscribe.

The situation which presents itself is about as follows: As a result of the war, labor and commodity prices are standing together on the fourth floor of a building. Everyone realizes that they must come down to ground level. The question is as to whether they shall both jump together; whether one shall jump first and allow the other to jump down upon him; or whether, as a possible alternative, an elevator shall be built by the Government to allow both to be let down together. The mere suggestion of building an elevator—a lift, as the English call it—raises the possibility that it can do two things with equal facility. It can lift something down. It may also lift something the other way.

The possibilities are interesting. The business man may say that since the

Government has gone into the lifting business, it may just as well lift his prices above the fourth floor as to lift them down to the first. Labor is certainly demanding that it shall start at the fourth floor and lift their wages to at least the fifth floor while dropping commodity prices down to the first or second floor.

The middle-class people—those who work on salaries, professional men, etc.—are disposed to say that if this elevator is built, the shaft shall not continue above the fourth floor. But, it is disposed to insist that if the Government is going to operate this elevator, it shall load both labor and commodity prices on at the same time and lower them gradually, first to the third, then to the second and, finally, to the first floor.

The point of view of the middle class is essentially sound. It is difficult, however, to see how this ambition is going to be carried into effect. Labor is organized and the business men are organized and both can express themselves in unit fashion. The middle class, however, is not organized and has no adequate expression therefore in unit fashion. Its particular point of view is not very clearly recognized in the various conferences which are being held in Washington.

THE AMERICAN SPIRIT

Under this head in the March issue, THE MINING CONGRESS JOURNAL told the story of the efforts of the Mining Congress to assist the War Department in securing positions for returning soldiers and gave interesting instances of the fine spirit exhibited by many employers.

A few days ago the Mining Congress received from the General Petroleum Corporation of San Francisco a copy of an executive order issued by Capt. John Barneson, president of the corporation, to all of the departmental and field officers of that organization, and which is reprinted here as a fine indication of the spirit dominating the successful business organizations of the country at the present time.

Captain Barneson has for years been an active member of the American Mining Congress and has served two terms as a director of the organization. There are few more successful business men than Captain Barneson and few more successful business organizations than the General Petroleum Corporation, and it may be that the keynote of the success is found in the communication quoted below:

"TO ALL HEADS OF DEPARTMENTS OF THE
GENERAL PETROLEUM CORPORATION

"Owing to the sudden changes which have been brought about by the termination of the war, and the fact that these changes may bring some doubt into the minds of some of our employes as to their future, we desire you to notify all in your department, by posting a copy of this letter in a conspicuous place, so that same may attract the attention of all employes:

"1. That there will be no reduction by the company in the present scale of wages for a period of at least two years from this date.

"2. That all employes of the company who left to join the colors will be reemployed upon their return if they so desire.

"3. That present employes who have taken the places of those who left to join the colors and who perform their duties to the satisfaction of their department heads, will be continued in the company's service.

"JOHN BARNESON, *President.*"

The Mining Congress has been in receipt of many letters showing the fine "American spirit" of its mining men, and among them none is finer than the spirit of the iron men in the Lake Superior district. Practically every company in the district has taken back its soldier employes, and one company sent out a letter to some 296 employes who entered the service offering them their jobs upon their return. A good many of the companies have had sufficient new work going on to be able to take care of their returning soldiers, but others not so fortunate, who have taken on the returning

soldiers, have at the same time been forced to drop other employes. The operators of the Lake Superior district are generally hopeful that conditions will rapidly readjust themselves so that the mines can be operated profitably and give employment to all these men.

TOO SCIENTIFIC

The announcement of the War Minerals Relief Commission to the effect that no claims or parts of claims for relief under the recently passed bill are to be paid until the last claim is in, and the commission can estimate how far the \$8,500,000 will go toward settlement, reminds us of the incident in the surgery class. The professor set the mental stage and pictured a serious accident in which the victim was badly lacerated and bleeding to death from an opened artery. He figuratively called one of the students to minister to the victim, and after describing the wound quite minutely he startled the young man by calling him to his feet and demanding, "Quickly now, Smith, what are you doing for your patient?"

Smith, anxious to appear quite proficient in scientific terms and professional practice proceeded to describe his emergency treatment, deliberately explaining each process. As he concluded he looked pleased with himself as he asked: "Was I right, doctor?"

"Quite right, Smith!" said the professor. "Quite right, except that your work was futile. Your patient has been dead ten minutes."

THE MONKEY-WRENCH

Somebody is always ready to throw a wrench into the machinery.

No one in particular has any respect for a community which encourages fake promotions. A business man, whether he be a banker who embezzles the funds entrusted to his care, or a man who sells worthless stocks, or just a plain, old-fashioned footpad, is usually reachable through the laws of his state which were adopted in the wisdom of the state legislature, and usually suited to local conditions as they appear to the lawmakers.

Since the spirit of bureaucracy began to run rampant in Washington, official Washington has seemed to be delving into every line of private, corporate and public enterprise. There developed a sort of disease, which, for a time at least, appeared to have gotten beyond the control of the doctors. One of the results of this epidemic has been the effort of groups of men who were brought into the government service for the purpose of organizing the country on a war footing to either perpetuate their organizations under newly framed laws or rulings, or to perpetuate the work of their organizations through establishment of new paternal practices by law or otherwise.

One organization which no doubt performed a very healthy function during the period of war, but which during its existence assumed such an arbitrary attitude toward the public that its official acts were at times somewhat unsatisfactory from a business standpoint, was the Capital Issues Committee, created ostensibly for the purpose of preventing a waste of money in unnecessary promotions, and for the more essential purpose of directing the investment of private and public capital along lines which might serve to promote national welfare in a time of peril. This organization died an automatic death about January 1. But with its last breath it dictated a last will and testament, which officially became known as H. R. 15447, and which was introduced by a most estimable and usually far-sighted friend of the West, Congressman E. T. Taylor. Mr. Taylor is a man who desires always to do the best thing for the West and for the nation at large, and in interviews and otherwise he gave evidence of a belief in H. R. 15447 as a most necessary and well-planned "blue-sky law."

The bill in its first paragraphs proceeded to denote any person who organized or participated in the organization of any corporation, association, syndicate, trust or other business concern, under the general caption of "promoter," a term which more often than otherwise suggests a man whose principal business

is to start the wheels of some new business experiment going for personal benefit. It designated as "advertisement" any prospectus or printed matter, letter or statement offering for sale securities of any kind, and then proceeded to arrange that any such promoter, person, corporation, or anyone who communicated through the mails with three or more persons during a period of thirty days or inserted in any newspaper, magazine, or periodical which circulated in any foreign country, or any state, district, or territory, ad libitum, any advertisement which should offer any securities or stock for sale, should conform to Federal censorship rules: First, every item of the proposed business organization must be published in full for the public, such as rates of commission and every expense incurred or to be incurred. No matter what display lines were to be used in such advertisement, all details and confidential statements were to be printed "in type as large as that used in printing any other item of such an advertisement." Announcement was to be made also that financial statements and other important information concerning the issuer of the securities were to be filed with the Secretary of the Treasury of the United States, or with any person or board which the Secretary might designate. No communications or offers for sale of stock through advertisements or letters could go through the United States mails in any form unless there had previously been filed a balance sheet showing the true financial condition "not more than six months preceding the mailing of such advertisement," the value of the issuer's personal property as shown by actual inventory, a statement of income and expense of issuer for three years immediately preceding the statement so made, or, if the person or persons who had such securities for sale had not been in business three years, then for each year in which the issuer had been engaged in business. The bill proceeded to fix a number of items which must be subscribed and sworn to and placed in the hands of the Government before a man or group of men

could proceed with the sale of securities; detailed descriptions of the property to be acquired, values of the same, from whom and by whom acquired, how payments were made, a statement of the compensation received by each promoter or officer of the organization, a statement of the stock issued as bonus during the preceding five years of its life period and an exact detailed statement of how the money to be secured by the sale of stock or otherwise was to be expended even to the small items of installation cost, furniture, wages of employes, etc.

In fact, if anything was omitted that would "hogtie" any promoter, or slow down and prevent all promotion, it was omitted merely because the originators and authors of this ingenious measure failed to think of it. H. R. 15447 is an interesting document to read as showing how far, in the minds of some people, bureaucracy should control the activities of business in the United States. It got as far as any such measure should get, which was to the committee room.

Requiescat in pace.

A DOUBLE STANDARD

In explaining the intention and principle of the Sherman Anti-Trust Law, Judge Stevenson Burke, an eminent attorney from Ohio, once said:

"The language of the law is that it is a restraint of trade if by any contention or agreement any group of men are able to influence the price of any commodity to the whole people. By way of illustration; if you and I are the only manufacturers engaged in the production of chairs and if you and I agree between ourselves to advance the price of chairs to all users of them, then we are guilty of a restraint of trade and come under the prohibitions of the Sherman Anti-Trust Law.

"Also, if you and I are the only laborers in the United States who are able to make chairs, and if we agree among ourselves on a wage which we demand and, thereby, are able to influence the price of chairs to the whole people of the United States, then we, in turn, are guilty of a restraint of trade in the

meaning of the Sherman Anti-Trust Law."

In other words, as Judge Burke saw it in his time, the fact in which the people as a whole were interested was the restraint of trade which would influence the price of a commodity to all the users of that commodity. It was an equal offense against good public policy, no matter who was guilty of the practice which increased the price. Those who were responsible for the price itself were the ones who had violated the law. That is not only a sensible interpretation of the law but, as we understand it, it is good law.

Under that interpretation, it is admitted, as in the case of steel, that the owners of the steel mills cannot agree among themselves to fix a price which all the users of steel must pay. It is equally clear that the employes of the steel mills cannot agree among themselves as to a wage which they will demand that will influence, automatically, the price at which steel must sell and, therefore, the price at which all the users of steel must buy.

However, under the Redfield plan, the Government proposes to assert itself as the price-fixing end of it. The Government says that during the reconstruction period it has not only allowed workers in the steel mills to agree among themselves as to a wage which they will charge, but the Government has become a party to that agreement. It is now admitted that this agreement fixes the price of steel at a level considerably above what would be dictated by free competition in the steel trade. That is to say, before the war there were enough steel mills to produce the amount that was required. During the war the productive capacity of those steel mills was considerably increased. In addition, new steel mills were built, or were in process of being built at the time the armistice was signed. The present fact in the steel business is that the expanded productive capacity of the older companies and the potential capacity of the newer companies result in a possible supply of steel considerably in excess of the current demand for steel. This,

therefore, indicates, if competition is free, a prompt reduction in the price of steel to all the users thereof.

However, the price of steel cannot come down to the level indicated by the strength of competition because of the existence of wage agreements to which the Government of the United States has become a party. Therefore, there is to a certain extent, a restraint of trade in steel and the Government of the United States is a party to that restraint.

Now comes the so-called Redfield plan. It proposes that the three parties in interest—labor, the producer and the Government—shall enter into an agreement as to the price of steel based upon the continued validity of the wage contract heretofore referred to. The presumption is that the price of steel shall be continued at a level which will allow the payment of maximum wages to the steel mill workers and, in addition, an amount to cover the other costs of producing plus some little profit to the operator. The only difference between this and any other agreement in restraint of trade is that the Government procured the agreement by arranging for and conducting a conference at which that agreement was reached.

This raises the very interesting question as to whether a Department of the Government can procure the violation of a government law by an industry under regulation by that Government. It raises this mighty interesting question: If Secretary Redfield proposes and consents to this arrangement, will his action meet the sanction and approval of the Attorney General of the United States? And, if the Attorney General sanctions such an arrangement, will he be acting in accord with his oath of office?

We are not raising this question for the purpose of antagonizing the so-called Redfield plan. We raise the question merely to put the business men of the country on their guard against the adoption of a policy which may later bring them into confusion. And, in this connection, we call attention to the action nearly two years ago by the Peabody Committee on Coal Production under the Council of National Defense. At

that time, the operators, at the suggestion of a member of the Cabinet, voluntarily agreed to reduce their prices to a level named by three instrumentalities of the Government itself. Although this agreement was procured by the Government, Mr. Gregory, then Attorney General of the United States, said that, regardless of the fact it reduced the prices of coal, it was a movement in restraint of trade because it fixed the price at which all users of coal must buy their supply. There is grave danger now that that ruling will be revived by the present Attorney General to all the agreements under the Redfield plan. We suggest it is wise to take this fact into account before entering into any of these agreements.

MISCALCULATION

When the Department of Labor called together a group of copper operatives a few weeks ago, discussed with them the dangers then confronting the market, and showed them by Federal figures that to continue the production of copper at the existing cost for labor was suicidal to most corporations, the Department of Labor did a most commendable and unusually practical thing in behalf of both labor and business.

The representatives from the copper districts spent several days in the city at government expense investigating the Federal situation, the markets, the political situation and in conferring with the officials of the Government. They satisfied themselves beyond question that the only wise thing for them to do was to devise a wage scale based upon 18-cent copper, not that the price of copper would remain at 18 cents, but that such a scale would be the best division of the losses between labor and employment. Copper was then below the minimum price which was agreed to by the producers as a wage basis. The copper market was even threatening to collapse. Thousands of old and valued skilled and unskilled copper operatives were facing either total or partial idleness until the market cleared. Even the United States Government, which had forced the price of copper up to 26

cents with a wage scale based upon that price, was refusing to purchase any of its supplies until copper tumbled to—as Postmaster Burleson put it to a delegation of copper operatives—"a rock-bottom figure."

Nobody seemed willing to help clear the situation. A committee of copper producers was then in Europe endeavoring to create a market for the mass of copper being held under stagnation conditions, and when the operatives returned to their homes there was firmly fixed in the minds of the officers of the Labor Department the belief that a real accomplishment had been recorded as a result of the three-day conference and that there would be no trouble of any nature resulting from the changing conditions.

But the Labor Department and the labor delegates failed to calculate on the motley crew known as the I. W. W., and when the 18-cent wage scale was announced, as per agreement, the Haywoodites, enemies of government, peace and industry, immediately took advantage of the fact and attempted to overthrow the industrial situation. Fortunately, Americanism of the simon-pure quality still exists in the majority of American hearts. The industrial revolution aimed at by the crew which now labels itself "bolsheviki," or some other outlandish foreign name, failed of fruition. Yet the ease with which the disturbance was created and the well-balanced machinery of industrial politics thrown out of gear, indicates that the longer the Government of the United States temporizes with this spirit the worse the conditions are going to be, and the more serious will be the inevitable contest when at last Americans awake to the necessity of wiping out the entire species which gives birth to this sort of misrepresentative socialism.

TREASURY RULING

That the Federal Government recognizes in The American Mining Congress a movement worthy of consideration is evidenced by the following self-explanatory letter just received from Mr. Daniel

C. Roper, Commissioner of the Bureau of Internal Revenue of the United States Treasury Department. The decision reached is the result of several weeks of careful scrutiny of the work of The American Mining Congress and of the technical points of the law involved:

TREASURY DEPARTMENT

March 21, 1919.

The American Mining Congress.

Washington, D. C.

Sirs:

Reference is made to your communication of February 7, 1919, requesting a ruling as to whether or not the dues and subscriptions paid by members to your organization would be deductible as business expenses on the part of such members in the preparation of income tax returns.

From your letter and a copy of subscription contract submitted, it appears that the services rendered by your corporation in return for the payment of dues and subscriptions by members consist of the collection and dissemination of facts bearing on the production and consumption of coal, oil, gas and other natural products, and the uses thereof, the economic and legislative conditions controlling or affecting operation and production, and such other information as the subscriber may desire and which your corporation is able to furnish.

In view of the fact that expenditures of this character tend to improve the production conditions of the companies interested and to bring such production to a higher degree of efficiency, it is held that the subscription and dues in question may be properly deducted as business expenses by the subscribers in the preparation of their income tax returns.

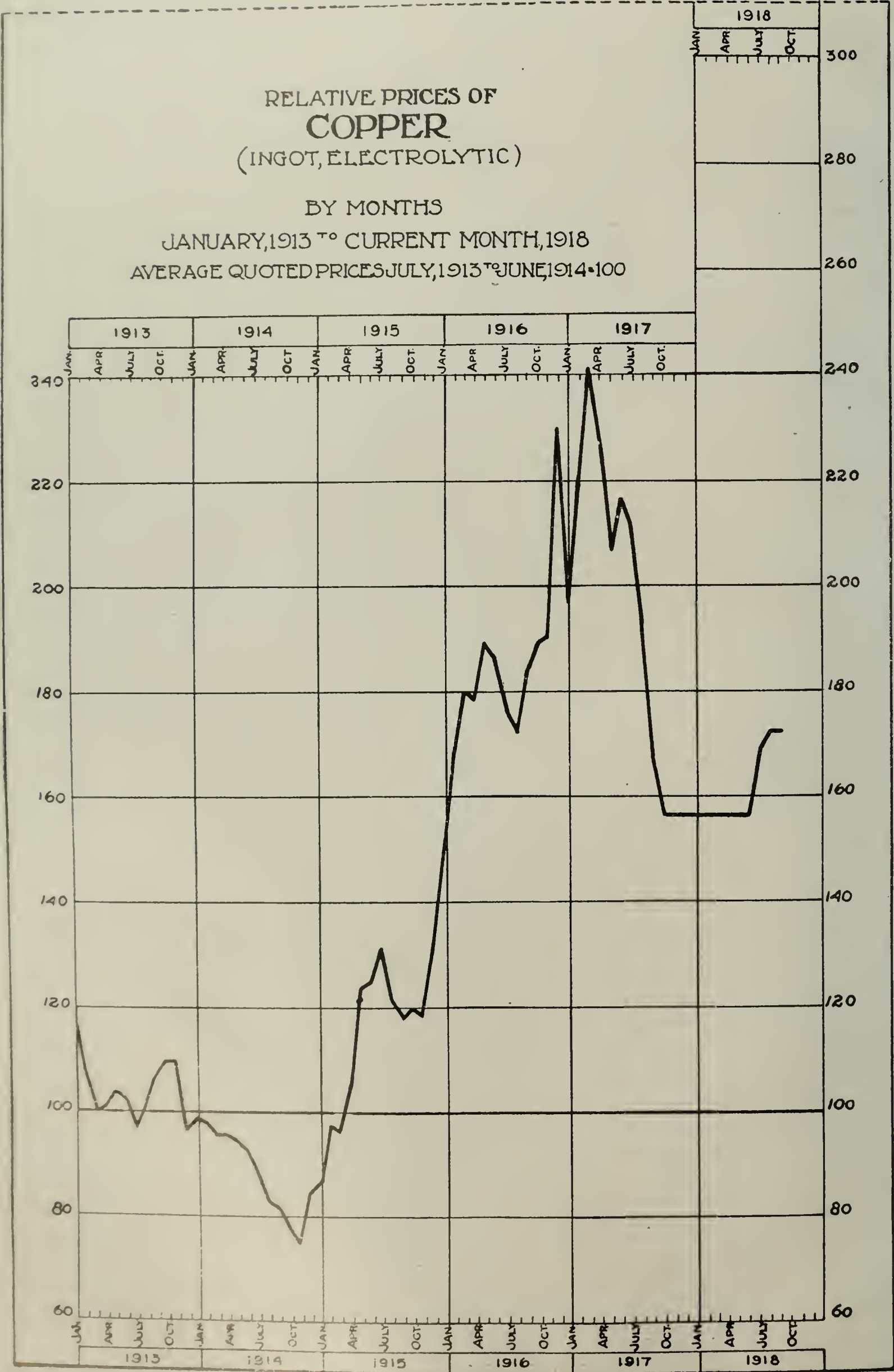
Respectfully,

(Signed) DANIEL C. ROPER,

Commissioner.

To Sell at Market Prices Only

Several articles have appeared in various newspapers to the effect that the War Department would sell its surplus stocks of copper back to the producers at 11 cents to 12 cents per pound. These statements have not been authorized by the War Department and no such arrangement is contemplated. It is the policy of the War Department, acting through the director of sales, to sell surplus property at market prices, allowing the trade only the actual cost of handling Government surplus property.



STEEL PRICES CUT 20 PER CENT UNDER WAR LEVEL BY MUTUAL AGREEMENT

The following statement was authorized March 21 by the Industrial Board of the Department of Commerce:

"In giving its approval to the schedule of prices just decided upon for the principal articles of iron and steel the Industrial Board of the Department of Commerce, carrying out the purpose for which it was created, believes that a level has been reached below which the public should not expect to buy during the current year. The purpose of the board is to bring about such a lower level of prices as will effect stability and stimulate trade, to the end that business and industry can proceed and build up with confidence and provide maximum employment.

"In its effort to effect cooperation between the Government representing the public, and capital and labor, it has in view a due and just regard for all of these interests, and, therefore, in giving its approval to these prices and others which it will not consider immediately, it will endeavor to strike a balance which, while calling sooner or later for some sacrifice or adjustments on the part of all, yet will not subject any of these interests to undue hardship.

"The board is asking industry to cooperate in taking the first step and voluntarily make temporary sacrifices in the interest of all, and has asked the iron and steel industry, because of its fundamental importance, to be the first to act, and the board is highly gratified with the spirit in which it has responded.

"It is fully understood and expected that the present wage rates or agreements will not be interfered with, the approved prices having this in view.

"The reduction in the price lists may involve the necessity of some high-cost plants either shutting down temporarily or running at a loss for a period, but it is expected, with an increased volume of business soon to be developed, a reasonable return to the average and better than average producers will be afforded. In view of the higher costs developed throughout the world as a result of the war, a return to anything like pre-war prices is regarded as out of the question. It is expected that other industries, as well as the consuming public and labor, will recognize their obligations in the circumstances, and cooperate in the same generous spirit as has the steel industry."

The following statement was made by Judge E. H. Gary, of the United States Steel Corporation:

"After careful consideration and full discussion relating to cost of production and all other facts and circumstances relating to the iron and steel industry, representatives of the

industry submitted to the Industrial Board of the Department of Commerce a schedule of proposed reduced prices of the principal iron and steel products, which, with modifications suggested by the board and accepted by the industry, has been approved by the board.

"The objects to be secured are a revival and stabilization of business by establishing a reasonably low basis of prices which would be satisfactory to the consuming public, and yet, so far as practicable, would yield a moderate and reasonable return to the investors where they are entitled to it in the application of sound business principles, and at the same time would not disturb wage rates of interfere with wage agreements; and further having determined upon prices which it is expected will not be reduced during this year, it is believed that the volume of business will be promptly increased and that furnaces and mills will be operating at a largely increased capacity, thus giving employment to a correspondingly increased number of employees.

"It has been necessary to ascertain and scrutinize all the facts and figures in order to prevent any injustice, and this has been the occasion for considerable discussion and some differences, but as a final result of the conferences which have taken place during the last two days and before, the committee appointed to represent the entire iron and steel industries joined in the report which was made to the Industrial Board.

"While in the opinion of some of the manufacturers the board has insisted upon some changes in the schedule submitted before approving the same, yet the iron and steel committee are convinced that the members of the board have been governed solely with the intention of protecting and promoting the best interests of the public, the investors of capital and the employees without discrimination, and that the action of the board has been wise and just.

"The iron and steel industry was the first called upon by the board to meet the business situation and to lend its energies and assistance in bringing about readjustment and restoration of the good business conditions and therefore was the first called upon to make the necessary sacrifice in profits, but those connected with the trade believe that as a result, for the year as a whole, they will be compensated and that if other lines of industry show the same disposition, as they undoubtedly will, we may expect great business progress and prosperity in the near future.

"The price list and reductions submitted

and approved by the Industrial Board is as follows:

	Nov. 11 Price	Present Price	New Price
Pig iron, basis.....	\$33.00 g. t.	\$30.00	\$25.75
Billets, 4-inch.....	47.50 g. t.	43.50	38.50
Billets, 2-inch.....	51.00 g. t.	47.00	42.00
Sheet bars.....	51.00 g. t.	47.00	42.00
Slabs	50.00 g. t.	46.00	41.00
Skelp, sheared.....	3.25 cwt.	3.00	2.65
Skelp, universal.....	3.15 cwt.	2.90	2.55
Skelp, grooved.....	2.90 cwt.	2.70	2.45
Merchant bar, base.....	2.90 cwt.	2.70	2.35
Sheared plates.....	3.25 cwt.	3.00	2.65
Structural base.....	3.00 cwt.	2.80	2.45
Wire rod.....	57.00 g. t.	57.00	52.00
Plain wire.....	3.25 cwt.	3.25	3.00
Nails	3.50 cwt.	3.50	3.25
Black sheets, No. 28.....	5.00 cwt.	4.70	4.35
Blue annealed, No. 10....	4.25 cwt.	3.90	3.55
Galv. sheets, No. 28.....	6.25 cwt.	6.05	5.70
Tin plate, No. 100, box...	7.75	7.35	7.00
Tubular products.....	3½ points off card		
Hoops, base.....	3.50 cwt.	3.30	3.05
Light rails.....	3.00 cwt.	2.70	2.45
Rails, standard Bessemer.	55.00 g. t.	55.00	45.00
Rails, standard O. H.....	57.00 g. t.	57.00	47.00
Ore	No change		

Basing points and differentials unchanged. Prices effective at once.

UMPLEBY TAKES MINERAL DATA TO PEACE CONFERENCE

The urgent calls upon the United States Geological Survey for fundamental data concerning mineral resources by other government organizations have fallen off but little since the armistice was signed. During the war most of the requests concerned sources of current mineral supply, but latterly the demand has been for forecasts as to sources of future world supply. The part played by minerals in the war, the striking fact that many of Europe's important mining districts lie in disputed areas, and the exceptional hold that Germany had through trade organizations upon the mining industries of other countries, made it inevitable that minerals receive serious consideration at the Peace Conference. Foreseeing this the Survey began a comprehensive investigation in 1917 of the distribution and extent of foreign mineral deposits. American mining and exploration companies collaborated in large measure, several of them giving the geologists full access to their foreign files; the literature was searched and American engineers with foreign experience were consulted. The results of the investigation have been shown graphically on specially prepared index maps so that at a glance it is possible to compare the mineral resources of France with those of Germany or Russia. The maps are supported by digests and references to original sources of information. The Atlas of Reserves in Europe contains ninety-six maps and the one on Latin America fifty-seven. Africa, Oceanica, Siberia, and Asia Minor have been covered by preliminary sheets.

Copies of this information are being retained in Washington, and, as recently announced by Director George Otis Smith, constitute, so far as not confidential, an open file available for personal consultation by American engineers and geologists. A duplicate set has been taken to Paris by Dr. J. B. Umpieby, Geologist in Charge of the Section of Foreign Mineral Deposits, who has been detailed upon request of the mission to assist in interpreting the data.

IRON MINES ARE OPERATING AT 50 PER CENT OF THEIR CAPACITY

F. T. Eddingfield, of the Bureau of Mines, comments on the iron situation as follows: "The iron situation is much the same this month as last. The market is dull, with small sales. Companies are operating only to about 50 to 60 per cent capacity. "The outlook, however, is promising; the demand for iron and steel should soon begin to be felt to supply the needs of construction neglected during the war. A good example of this condition is India. Before the war India was importing almost twice as much iron and steel products as at the close of the war and the source of a large part of the supply shifted from England to the United States. India, therefore, is short in iron and steel supplies, as compared to the normal consumption, by several hundred thousand tons. "Some demands for iron and steel products have come from China and also South America during the month. The activity in China is of special interests as indicating development in that country. "The chief item of interest during February was the formation of the London Iron and Steel Exchange, which is an organization to promote the interests of the British iron and steel manufacturers and producers. It is apparently the outcome of the recommendations of the departmental committee appointed by the London Board of Trade and will be similar to the organizations in Italy, Russia, and other countries."

The following announcement is made by W. A. Butchart, Denver, Colo.: Having acquired the plant and shop equipment of the Enterprise Machine Company, our office for the past seven years at 603-607 Mercantile Building has been consolidated with the plant at 1320-1330 Eleventh Street, between Larimer and Market Streets, An ore-testing laboratory has been installed, and prompt and efficient service is assured. Manufacturing facilities for the Butchart concentrating table and flotation apparatus have been enlarged and improved, and immediate shipments can now be made, as a large stock is constantly on hand.



M. M. GARLAND

Who has been elected as Chairman of the Committee on Mines and Mining of the House.

"FLOATED TO VICTORY ON WAVE OF OIL," SAYS BRITISH ADMIRAL

"We floated to victory on a wave of oil," said a British admiral in the first enthusiastic moments following the armistice.

Just how much truth there is in this statement has just been disclosed by Van. H. Manning, Director of the Bureau of Mines, Department of the Interior, in the yearly statement on the production of gasoline in this country.

In 1916, before the United States entered the war, according to the statement, the production of gasoline was a little short of 50,000,000 barrels. In 1917, when war activity was accelerated by the entry of the United States into the war, the production of gasoline had increased to nearly 68,000,000 barrels, an increase of more than 50,000 barrels a day.

It was thought by many that this must be the peak of American patriotic effort, but in 1918, when the war had assumed even greater proportions, the production of gasoline was over 85,000,000 barrels, an increase for the year of more than 17,000,000 barrels. The daily increase for this year over the record-breaking year of 1917 was about 47,000 barrels for each of the 365 days, or almost as much more as the increase of the previous year.

How this country sent an ever-increasing flood of this gasoline to the Allies and to friendly countries is seen in the export figures. In 1916 there were 8,473,102 barrels of gasoline sent abroad. In 1917 this amount had increased to 9,901,877 barrels, an increase of about 4,000 barrels a day. In 1918 these exports had reached a total of 13,312,508 barrels, an increase of nearly 10,000 barrels a day over the year 1917.

It is the opinion of Mr. Manning that no single industry in this country of so important a nature ever made such a showing in a single year, and he doubts if the future will ever show such a record of achievement.

TIN SITUATION REMAINS ACUTE; LITTLE BUSINESS BEING DONE

R. R. Hornor, of the Bureau of Mines, is authority for the following:

The tin situation remains acute, and little business is being done in the open market, except in small lots of less than five tons, at a price around 67 cents per pound.

It is reported that the United States Steel Products Company has allocated about 50 per cent of the 10,000 tons of tin held under the interallied purchases at a price presumably of 72½ cents per pound.

In last month's review it was pointed out that the domestic smelters were in an advantageous position inasmuch as they could buy the ores in an open market on a basis considerably below the fixed price of tin in this country, thus giving them control of the market, and at the same time insuring large profits. The Government, through a properly constituted agency, refused to give clearances of purchases made from domestic smelters, except in less than five-ton lots. Later, when this ruling was found not effective, the War Trade Board refused to grant licenses for the importation of tin ore by American smelters. It now appears that the Government's action did not produce the intended results because the smelters were already supplied with ample stocks of ore to enable them to maintain production for several months.

This action on the part of the Government has caused a protest, as it has been pointed out that the price of pig tin on the London market is now less than 50 cents per pound, against a fixed price of 72½ cents in New York, or a differential in excess of 22½ cents. However, it would seem that the London price does not reflect the true price of tin any more than does the New York price, for the reason that the United States, the largest consumer of tin in the world, is arbitrarily excluded from the London markets, thus restricting the demand, and causing an abnormally low price to prevail. When the embargo on imports is removed, and the consumers in this country are permitted to buy in the world's markets, the London price will probably react to considerably above the present price.

ELIOT DISCUSSES DUTIES OF CAPITAL AND LABOR

Charles W. Eliot, president emeritus of Harvard, before the Legislative Committee on Social Welfare, favored the bill for a special commission to investigate hours of labor in manufacturing enterprises, having in mind health, safety and comfort of workers as well as production in competitive situations.

Mr. Eliot made the following suggestions which the commission might carry out:

1. Abandonment of every form of despotic or autocratic government in factories, mines, transportation services and other industries.

2. Universal adoption of cooperative management and discipline throughout works or plants.

3. Adoption by all corporations and individual owners of every means for promoting health and vigor of employes and their families.

4. Careful provision in all large services of means for dealing promptly and justly with complaints of employes.

5. Universal use in large services of well-trained employment managers.

6. General adoption of a genuine partnership system between the capital and labor engaged.

7. Constant effort on part of managers to diminish monotony and increase variety in occupations.

8. Universal acceptance of collective bargaining through elected representatives of each side.

With regard to what employes should do, President Eliot suggested:

1. Abandonment of doctrine of limited output.

2. Abandonment of idea that it is desirable for workers of any sort to work as few hours as possible.

3. Rejection of the notion that leisure rather than steady work should be the main object in life.

4. Abandonment of two conceptions which underlie use of violence or force in winning victories in contests between employers and employes: (a) That capital is the natural enemy of labor. (b) That unorganized laborers are traitors to their class.

5. Abandonment of all violence toward property or persons in prosecution of industrial disputes.

Mr. Eliot made the following suggestions to both parties in industrial strikes:

1. Willing adoption by both parties of methods of conciliation or arbitration.

2. Recognition by both parties that a new danger threatens civilization.

3. General acceptance of the view that American liberties are to be preserved just as they have been won.

4. Acceptance of the truth that democracy which is to be made safe in the world does not mean equality of possessions or powers but, on the contrary, the free cultivation of diversified human gifts and capacity, and liberty for each individual to do his best for the common good.

GOVERNMENT FIXED-NITROGEN ADMINISTRATION TO BE FORMED

The following statement is authorized by Mr. Benedict Crowell, Assistant Secretary of War:

"The United States nitrate plants were built with the greatest urgency to meet imperative military necessities. These immediate military demands were extinguished by the signing of the armistice. The problem now is to endow these plants with the maximum peace-time value, while maintaining and enhancing their war efficiency. This involves new questions in the technique of fertilization, and requires not only constructive but creative work.

"Following a careful study of the situation, it has been decided to establish forthwith a civilian organization, under the interdepartmental control of the Secretaries of War, Navy, Interior, and Agriculture, to be known as the United States Fixed-Nitrogen Administration, and charged with all of the Government's fixed-nitrogen interests. In due course the nitrate plants and other interests now administered by the Nitrate Division of the Ordnance Department of the Army will be turned over to this new fixed-nitrogen administration.

"Mr. Arthur Graham Glasgow has been requested to act as first administrator and to be responsible for creating the new organization."

Little Activity in Pyrites

There was no marked activity in the pyrite and sulphur industries during February, owing primarily to some curtailment in acid manufacture, and to the slowing up of other industries utilizing these materials, says R. R. Hornor, of the Bureau of Mines.

Every article leading to economy and conservation is being welcomed by American industry. It behooves every industry to protect itself against loss and breakage of materials. One of the protective assurances against breakage is set forth in the pamphlet of the Flexible Steel Lacing Company describing the Flexco-Lok Lamp Guards, which prevent breaking of electric lamps and resultant dangers from broken glass and work in progress. The pamphlet carries a very intelligible price list.

REFORMING BY CATCH-PHRASES

BY GEORGE H. CUSHING

The atmosphere in Washington and New York is identical. The only difference is one of the prevailing ambition. In New York every tenth man is a "Get-Rich-Quick Wallingford." In Washington every other man would become a great statesman through having instituted some great reform.

In New York, extending through fifty years, a series of supergeniuses combined a series of a half-dozen failures into one success and made, thereby, for themselves a few million dollars. Since then the great obsession of New York City has been to make a million dollars over night by combining something.

In Washington the President coined an expression. One day when toying with his typewriter he ran off that sentence about fighting the war "to make the world safe for democracy." That was nothing more nor less than beautiful language. It sounded almighty well, but meant nothing at all. It changed neither the purpose nor the character of the war. It changed only the words by which people talked about the war.

That one insignificant circumstance started something. It brought glory to the President. It inspired every man in Washington to begin to "reach out for solutions." This—to their microscopic minds—means to try to coin a phrase which will set aside an economic principle and so will institute a great reform.

As a result, the outstanding desire of Washington today is to reform something by coining a catch phrase—"to reach out for solution." Every third man wants to reform a practice here, an industry there, the Government in another place, and society in general to the end that he may reap everlasting and personal glory by saying "we are going to make life livable" or something equally obvious and trite.

These reformers know that the world lives by its business. So when they want to benefit the whole people by making life livable, they start to reform business.

By some grievous mistake, some man who really thinks became entangled with the word tricksters. He advised that they start from the bottom and work toward the top. He proposed that they get at the base of the disease rather than to start at its effect and work down to its cause.

The base of every business is, of course, its labor and its raw material. The labor is the principal thing. "But it doesn't do for politicians to put too much stress upon it. It might look like politics.

The raw material is a better striking point. It's easy to say that they belong to the people. And it sounds good. So, these reformers have attached themselves to raw material.

They have done so, knowing that when they have mastered raw material the satisfaction of labor can come along naturally as part of the scheme.

The decision to control raw material is peculiarly adroit. For example, if you control the coal, you automatically control the three elements into which it is broken up when it is distilled—coke, gas and tar. Of course, if you control the coal and hence the coke, the gas and the tar, you control automatically everything which is made out of the coke, the gas and the tar. Therefore, by controlling coal you control the entire chemical industry of the United States. It is a very simple and a very ingenious process the reformers have started to work out.

There is also the question of food. If you control wheat, you control flour and, through the flour, you control the baker. Therefore, by controlling food you control the whole line of business growing out of a bushel of wheat, or a bushel of corn, or a bushel of rye, etc. If you control the meat animal you control both the packing industry and the hide and leather business.

Also, if you control iron ore and a few of the other metals, you instantly control the iron and steel business with all of its ramifications, including the manufacture of machinery.

By the same token, if you control crude oil, you control everything that the Standard Oil Company stands for—and that the opposition stands for.

It is merely an elaboration of detail to go further. It is perfectly clear that if you control the basic raw materials, you come thereby to control the business which grows out of those raw materials. It is, therefore, a very ingenious idea that the reformers start within their effort to reform all human society. The interesting detail is that they start by "reaching out for solutions" by coining catch phrases. Their immediate plan is to control the basic raw materials through reaching some kind of a working agreement between the men in those industries and the proper official of the Government.

I am not going to indulge in that elaborate detail which would explain the devices by which the sentimentalists in Washington are seeking to reform human society by controlling business. But I will say that under the cloak of a "reconstruction program," they are trying to introduce permanent control of raw material and, through it, control of business.

To tell the story simply, I will recite permitted details of the program to reform the coal business.

Some months after the adoption of the

plan to control raw materials—the Wilson-Baruch idea was developed in August, 1918, and this occurred in January, 1919—a man in the Labor Department by the name of Potter went to the Secretary of the Labor Department. He suggested that during the “reconstruction period” it might be well to control the price of certain basic materials in order, thereby, to control the wages of labor. Taking coal for an example, he said that if coal prices could be controlled by fixing a minimum price at which the Government would buy coal, it would be possible as a part of this plan to demand that labor in the coal mines should receive the maximum wage.

As I am informed, Secretary Wilson applauded the general idea. But he advises caution in its advocacy for two reasons, viz:

If that suggestion came out of the Labor Department it might seem a movement solely for the benefit of labor.

Again, it might never do to allow the idea to get out that the Labor Department was seeking to control coal. If coal was thrust upon the Labor Department, that was another matter.

All told and anyhow, it would never do for labor to advance any such a theory. Still, it was a great idea and would be fine if the thing could be worked out by getting somebody else to make the suggestion.

A man by the name of Ritter is in Washington coming from Columbus, Ohio. Mr. Ritter is the head of a lumber syndicate. In January, 1919, he had and expressed certain positive opinions to his board of directors. He said—so I am told—that wages and commodity prices would have to be radically readjusted. The only way to do that, in his opinion, was to let everything go to smash and let society build a new economic system out of the ruins. Therefore, he advocated to his board that they close down all their lumber mills.

In February, 1919, we began to hear talk in Washington that Mr. Ritter was likely to become an active candidate for the Senate of the United States from Ohio.

Also early in February, 1919, we heard that Mr. Ritter had recommended to Secretary Redfield, of the Department of Commerce, in connection with food prices, the exact policy and plan which, in January, Mr. Potter had advocated to Secretary Wilson with respect to coal.

Mr. Redfield is en rapport with the Washington idea of “reaching out for solutions.” He wants to reform. He doesn’t scorn the reformation via the catch-phrase route. At any rate, Mr. Redfield grabbed at Mr. Ritter’s suggestion and instantly called the Cabinet together. Apparently, the Cabinet was greatly impressed. About the 10th or 11th of February the Redfield plan—which was the Ritter plan, which was the Potter plan—was cabled to President Wilson in Paris. He cabled back his approval.

Meanwhile, the imaginations of the Cabinet members had been turned loose. They began to balloon the proposition. If this thing could work in food, it could work elsewhere. So, it was agreed that Secretary Redfield was to control one thing and various other secretaries were to control various other things. By the time they had finished allowing their imaginations free play, the basic industries of the United States were allocated, so to speak, to the different members of the Cabinet. And, before we knew anything about it, the coal business, body and breeches, was about to be thrown into the hands of the Labor Department to control as it saw fit.

This allocation didn’t suit at all. Naturally it didn’t, because the coal business didn’t care to be run as an asset of the Labor Department. It has been too much that way for the last twenty-five years. Something had to be done. It was.

The first step was to create a buffer state between coal and the Labor Department. That was done by requesting the continuance of the Fuel Administration.

The next thing was to make the Fuel Administration worth its keep. That was not so easy. Nevertheless, it was tried.

In the meantime, the Redfield idea had captured the imagination of the amateur reformers in Washington. They saw a great opportunity to make over the whole business machinery if the Government could only control business. Of course, to do so, it would be necessary to change the form of our Government into something approaching a Hohenzollern-operated Germany. But what is a little thing like a form of government—mere words and ideals after all—when it interferes with political control of all business. The form of government had to go—so said the reformers—and that was the end of it all.

However, the Redfield idea—passed to the world by Mr. Potter through Mr. Ritter—is in full bloom in Washington. Everyone is talking about it and trying to work under it.

To put this whole matter bluntly and simply before coal men, I state the case thus: The present administration proposes as a trade with the coal men:

“We will give you a minimum price until the treaty of peace is signed if you, in turn, will allow us to experiment in the coal business to see whether the commission form of government will work out. If the commission form of government works out through the reconstruction period, then we ask your support to go before the Congress of the United States to recommend a whole system of business regulation. This will involve the creation of a wholly new piece of machinery in the Government and the political control of all business—your own included—by controlling the raw materials from which each business springs.”

The terms of this trade are: “We will allow you to charge a fair price for five months if

you will, in turn, surrender control of your industry forever."

You and I say that this whole thing cannot be done under the Constitution. That is perfectly true. But I say that, in the minds of the experimentors at Washington, the Constitution is not even a scrap of paper. It long ago has ceased to exist, to their minds. They think nothing of changing it. They have the greatest desire to make it over to allow the centralized form of Government which this control of raw material presupposes.

This is a time when the coal trade wants and demands full and complete information on all subjects affecting it. It should have not only the plan itself but the thing which is behind the plan. It is with that idea in mind that I have written what is here set down.

I say this is not a plan to assist the coal trade. It is primarily a plan designed to reform and refashion the Government of the United States. The basic thought is to take it out of the democratic class and put it into the centralized government class by giving the Government complete and detailed control over the raw materials of the United States and, through that, the control of all the business of the United States. It is for the coal men to decide whether they want to gain for themselves a minimum price between now and the first of July and to give, in exchange for it, control over their business from now on to some governmental bureau. It seems to me like a one-sided bargain.

YEAR BEGAN WITH COPPER SURPLUS OF 600,000,000 POUNDS

There was something over one billion pounds of copper in stock at smelters, refineries, manufacturing plants, and in the hands of the United States Government, and in transit at the close of 1918.

As of January 1, 1914, the grand total similarly computed would probably have been in the neighborhood of four hundred and fifty million pounds. If the latter is taken as a normal figure there were as of January 1, 1919, stocks of copper in excess of normal aggregating some six hundred million pounds.

This very extensive accumulation of stocks, according to J. C. Pickering, of the Bureau of Mines, is chargeable to:

(a) Greatly accelerated production. The immediate prewar primary refinery production of copper was about one thousand six hundred million pounds per annum. During 1917 and 1918 it exceeded two thousand four hundred million pounds per year, an increase of 50 per cent.

(b) During the period of government control of the copper industry the producers had little copper sold ahead, their output being largely taken by the United States and allied governments. Government stocks so acquired

both here and abroad are now indicated as very large. It has been reported that the United States Government will not throw its copper on the market *en bloc*, but may feed it out on the basis of a percentage of the sales of copper. The attitude of foreign governments has not been clearly defined.

(c) During November and December, 1918, producers—at the reported instance of the Government—maintained wages and production at war levels in spite of reported negligible sales.

(d) During 1918 great stocks of blister on hand, in transit, and in process of refining accumulated through the inability of refineries to keep pace with production.

(e) The tremendous problems confronting the world in its transition from a war to a peace basis require time for solution. The great dislocation of industry arising out of the sudden termination of the war is not capable of prompt adjustment. The United States produces 60 per cent and refines 75 per cent of the world's copper; of this latter one-half is exported and one-half is for domestic consumption. Exports are at a low ebb and the domestic demand is greatly reduced. Serious consideration is being given to proposals which will enable the Government to finance purchases made in this country for account of foreign interests, and government plans under way have in view the promoting of domestic industrial confidence.

RECIPROCAL INFORMATION PLAN UNDERTAKEN BY BUREAU OF MINES

In sending out a questionnaire asking for information as to ferro-alloys, Van H. Manning, the director of the Bureau of Mines, sent the following letter:

"I wish to express to the recipients of the accompanying report forms my very earnest hope that they may find the idea of reciprocal information of sufficient value to warrant them in sending in their individual reports.

"It is the consistent idea and purpose of the Bureau of Mines to be of as much use and benefit as possible to the mining and metallurgical industries, and it is thought that the suggestions detailed on an accompanying sheet will be a step in the right direction.

"I believe that the element of speculation inherent in the rare metals business under past conditions is largely due to the impossibility of obtaining timely and accurate estimates of the quantities of materials on hand which contain such metals, at reasonably frequent periods. If, therefore, the bureau can send you, before the end of each month, a compilation of the total figures submitted for the month previous, covering the metals and products on which you report, I believe it will serve to stabilize the industry, at least to the extent of removing one of the two ever-present uncertain factors—namely, quantities and prices.

"It rests entirely with the industry as to whether or not this plan will prove successful, or whether, indeed, it is even worth while. I believe, however, that it at least warrants a thorough trial and that the industry will be able to decide for itself whether or not the work is worth continuing after several monthly compilations have been made and distributed. These compilations will only be attempted if a considerable majority of the total known amounts of material are officially reported to the bureau, and it therefore rests with the industry whether or not the idea shall be given a fair trial, and the industry will be asked to sit in judgment upon its continuance or cessation.

"The Bureau will appreciate any suggestions tending to improve or amplify, within reasonable bounds, the attached blank forms, or any ideas regarding an improvement in the service which the bureau is attempting by this means to render to the rare metals industry."

FEDERAL RESERVE BOARD COMMENTS ON READJUSTMENT

The leading feature of the Federal Reserve Bulletin for March is a discussion of readjustment to a peace basis. It calls attention to Secretary Glass' statement of the readjustment problem in his letter to Chairman Kitchin, in which he said: "Upon the enactment of appropriate legislation to enable the Food Administration to protect the guaranties given by the United States, I am hopeful that it will prove possible to restore the operation of the law of supply and demand, with respect to foodstuffs, with, as I believe, a consequent reduction in the cost of living. A period of rising prices and of intense industrial activity such as we have experienced during the past four years is always a period of great apparent prosperity, and a period of falling prices and of the contraction of credits is always a period of depression. The retardation of the process of readjustment by artificial means can only increase the evils inherent in the situation. Buying will not begin and activity will not set in until the community at large is satisfied that prices have reached bedrock." Enlarging further upon the ideas thus suggested by the Secretary of the Treasury, the Review of the Month then calls attention to the problem of restoring prices to a stable basis, and after expressing agreement with the view of the Secretary of the Treasury that reduction in costs of living is much to be desired, it says: "'Readjustment' thus becomes a problem which involves the effective transfer of labor from war work back to peace employment at stable and satisfactory remuneration, the curtailment of costs of production to a point that will enable our manufacturers to satisfy domestic demand and compete favorably with foreigners for the export trade, and the adjustment of values generally

to one another upon the new basis created by normalization of prices and wages. It would be unreasonable for any factor in production to assert that it would not bear its share in this general process of readjustment. Such readjustment is designed for the common benefit of all participants in industry and the public at large. If it be equitably carried out, its effects will not tend to favor any particular class or group in the community, but will operate, while leaving all in the same relative position, or at all events in an admittedly equitable relationship one to another, to increase the general volume of business and the regularity and smoothness with which the industrial mechanism moves and functions."

The Review then takes up various special phases of readjustment and deals first with the question of labor, quoting recent figures to show the extent of unemployment. Of industrial readjustment it says that substantial progress has been made through the reduction of transportation rates and the modification of war prices in a number of fundamental lines. A necessity for special care in the investment of capital during the readjustment period is noted, and attention is called to the bill recommended by the Capital Issues Committee for the purpose of protecting investors who might otherwise be induced to commit themselves to undesirable or inopportune enterprises. Of foreign trade the Review says that "It is now becoming more and more evident that an important phase of readjustment must be sought in connection with our foreign trade. Opinion as to this branch of business has undergone some change during the past month. Up to the opening of February it had still been hoped by many that there would be a swift revival of activity and that our manufactured products would be exported in something approaching the volume developed during the war. Several influences have intervened to prevent such a development. Important among these is the unsatisfactory position of the exchanges, making it imperatively necessary for some foreign countries to devote their efforts to improving the exchanges by keeping down the amount of their current foreign indebtedness. Moreover, it has appeared that no inconsiderable part of the foreign-trade activity of the year 1918 was directly due to the fact that the United States was financing this export movement at low rates of interest through the advances made by the Treasury Department to the several foreign governments. That these will not be continued upon their former level is, of course, an inevitable incident of our change from a war to a peace basis, and with this change in Treasury policy some change in the activity of those branches of export trade which were dependent upon assistance of this kind is unavoidable."

Considerable attention is also given to the price situation and the question of relations between wages, profits and prices of goods.

NEW INDUSTRIAL BOARD ATTACKS POST-WAR STAGNATION IN INDUSTRY

The United States Council of National Defense announces, under the authority of William C. Redfield, Secretary of Commerce, the following personnel of the Industrial Board of the Department of Commerce: George N. Peek, chairman, Moline, Ill., formerly vice-president Deere & Co.; Samuel P. Bush, Columbus, Ohio, president Buckeye Steel Castings Company; Anthony Caminetti, Washington, D. C., Commissioner of General Immigration, Department of Labor; Thomas K. Glenn, Atlanta, Ga., president Atlantic Steel Company; George R. James, Memphis, Tenn., president Wm. R. Moore Dry Goods Company; T. C. Powell, Cincinnati, Ohio, Director, Capital Expenditures, Railroad Administration; William M. Ritter, West Virginia, president W. M. Ritter Lumber Company.

The board at its meeting Friday, March 7, authorized the following statement:

The President has authorized the appointment of a board to address post-war stagnation in commerce and industry. The condition, its cause, its remedy, the results to be expected and the objections to the course purposed are briefly analyzed below:

1. *The Condition:*

(a) *Although* (1) commercial stocks are depleted, (2) there is plenty of money, (3) building and construction are several years in arrears of necessity, (4) a long period of enforced economy is greatly relieved, (5) markets are in prospect in all parts of the world.

(b) *Still* (1) buying is timid and has been decreasing in volume, (2) money is also timid and remains in bank, (3) some mills and factories are idle—few are running full, (4) construction of public and private works has not begun, (5) non-employment is spread.

2. *The Cause:*

(a) War-required production abnormally increased generally, and *abortively* increased respecting certain commodities specially needed for war. This irregular increase was secured by enormously increased prices. Consequently the sudden termination of war left a highly inflated and very irregular market which is generally far above what the peace demand will support and which is not homogeneous, many prices being *abortively* above their place in the normal pattern.

(b) This situation was originally created by the abnormal operation of the law of supply and demand, stimulated by the great need of the European countries for war materials before this country entered the war, but after we entered the war the law of supply and demand was adjourned and was replaced by such new and powerful forces as priority certificates, compulsory and commandeering or-

ders, export and import restrictions, and price fixing. These forces worked through comprehensive agreements and cooperation between the Government and industry. Therefore, it may fairly be stated that the existing condition was not brought about by the normal operation of the law of supply and demand.

(c) The normal operation of the law of supply and demand cannot cure what it did not cause, first, because it cannot operate until buying begins, and, second, because buying cannot begin until we have a more normal, stable and homogeneous market.

(d) Everybody knows that some prices must fall. No one dares buy until they do fall, and even then everybody will wait to see how far they fall. Individual action in lowering *selling* prices is therefore timid, unscientific, and long drawn out. It cannot render the market uniform or stable, but, on the contrary, renders it unstable, dangerous and panicky. The law of supply and demand *would* cure the situation eventually, but can we afford to wait, first, through a period of suspicion and uncertainty, then through a panicky crash in all markets, and then through chaotic readjustment. By sane and temperate action all this can be avoided and the law of supply and demand helped over the gap between hold-over war prices and a stable level.

(e) Some uncertainty results from governmental accumulation of facilities and raw, finished and partly finished materials, which must be fed very carefully into the market. This situation requires the cooperation and advice of industry.

3. *The Remedy:*

(a) The condition must be cured as it was caused. It was not caused by the normal operation of the law of supply and demand, but by general, comprehensive cooperation and agreement between industry and government. It must be cured by the same kind of cooperation and agreement—a consummation possible only at the instance and with the approval of government.

(b) Wholesome cooperation in American business at governmental instance was proved in the War Industries Board (W. I. B.). Governmental *control* as practised by the W. I. B. is no longer necessary, but cooperation and agreement in industry at governmental instance and with governmental approval is necessary to bring the law of supply and demand back into normal operation and to let loose prosperity.

(c) To this end the President has authorized a board, largely of W. I. B. men, operating on W. I. B. ideals, *minus W. I. B. control*, to call industry together group by group, and let them decide on prices to be offered to the

nation as the governmentally approved judgment of assembled industry on a price scale low enough to be stable, homogeneous throughout the whole fabric, and founded so solidly on a comprehensive review of conditions as to encourage general buying, including that of the railroads and other governmental agencies, and the resumption of normal activities.

4. *Results to Be Achieved:*

(a) Basic commodities such as steel, building materials, textiles, and food will be considered first and brought to a stable basis. The governmental policy, as expressed by the bill to authorize purchase by the Government of wheat at the guaranteed price and resale of it at the world price is to assist in bringing prices of basic commodities to normality by bringing down the cost of living. It is hoped that these steps alone will automatically operate to reduce the price of fabricated articles. If they do not do so in any particular case the industry affected will be invited into conference.

(b) As soon as a stable and wholesome scale of prices is achieved, the cost of living will have so far been reduced as to create automatically reductions in the price of labor without interfering with American standards and ideals for the treatment and living conditions of labor, and thus the last inflating element will have been withdrawn from prices. It is believed that industry will agree that the cost of living must be substantially reduced before labor should be asked to accept lower wages and thus industry should stand the first shock of readjustment.

(c) The assurance to the country of a market stabilized at the lowest reasonably expected level will loosen such a flood of buying for the recreation of stocks, the making up of arrears in the building program, the feeding of needs long starved by economy and the invasion of world markets as may stand unprecedented in this country. From the stable level thus reached by cooperation we may expect a healthy and normal condition created by the complete and unhampered operation of the law of supply and demand.

5. *Objections to the Governmental Purpose Shortly Answered:*

Objection (a) Business resents governmental interference and control, which is to be avoided rather than encouraged. Let conditions alone and the law of supply and demand will cure all evils.

Answer: The war developed a new thing in government—cooperation and mutual help between government and industry in which government appeared not as a policeman and not as a jealous guardian of a suspicious character, but as a friend and helper. This idea proved itself. What is proposed is not governmental control. The board has no power of control. It is proposed to provide a forum in which industry can meet and agree

on a policy for itself at the instance and with the approval of government, which will help the law of supply and demand over the gap between hold-over war prices and a stable level.

Objection (b) Business and industry will not come into a governmental conference unless there is a power of compulsion.

Answer: The experience of the W. I. B. utterly disproves this criticism. It has been argued that patriotism impelled business and industry to the W. I. B. Patriotism is not adjourned with the closing of the war.

Objection (c) War prices were fixed at such a level as to insure the production of many high-cost and inefficient producers. What is proposed would shut off this production.

Answer: This production is not needed in peace. The American people cannot be expected to support inefficiency in the enterprises that serve them with the necessities of life or to maintain production not normally needed. Inflated production above that which would be supported by the law of supply and demand must cease.

Objection (d) Such readjustment must necessarily require redistribution and readjustment of labor.

Answer: This is quite true. It is necessary. The distribution and allocation of labor to war industries has upset the normal pattern in this country for four years. What is proposed is a stimulated peace industry which will employ as much or more labor as did war industries, especially considering the loss of man-power, due to decreased immigration, loss by influenza, war and probably increased army and navy. That it will employ them in different places and at different tasks is inevitable, whether the proposed step is taken or not.

Objection (e) A general reduction in selling prices now will force industry and commerce to take a loss on products purchased at war prices.

Answer: This is true and inevitable, whether the proposed plan is attempted or not, but under the proposed plan better adjustments are possible; buying will begin immediately, the overhead of continuing high-cost operations through a period of stagnation is eliminated, and finally much of the loss will be recouped by buying at fair prices and selling in the inevitably increasing market that will result from the normal operation of the law of supply and demand under prosperous conditions.

6. *In Conclusion:*

It is expected that the activities of the board will be temporary and are intended only to give governmental assistance to aid the law of supply and demand in resuming its normal functions.

The splendid cooperation of American industry during the war leads to the belief that it may continue and carry us safely through

the trying period of readjustment. Surely with our fundamental conditions so sound, there is every reason to believe that we may bridge the gap between war and peace with the same courage and fortitude that always mark the American business man in his dealings with large affairs, and thus escape the unfortunate depressions which the country has suffered following previous wars. The offices of the board will be in the Council of National Defense Building, 18th and D streets.

Sulphuric Acid Price Falls

R. R. Hornor, of the Bureau of Mines, comments on the sulphuric acid situation as follows:

"Information furnished by a representative of the Chemical Alliance indicates that there has been considerable curtailment of production since the first of the year, also some falling off in price. Acid of 66°B. is now being offered at about \$20 per ton in the eastern markets, and by-product acid, 50°B., from the zinc plants, is being offered as low as \$10 per ton in the Chicago markets.

"The acid manufacturers kept their plants running at nearly full capacity until the first of the year, in order to keep labor employed, although in the latter part of the year the demand for acid for war purposes had practically ceased. Thus the large reserve stocks already on hand were increased. Besides, at the termination of the war, there were in transit and in storage large stocks of acid at the various explosive works.

"The outlook for a large demand for acid in the steel and oil industries is exceptionally good.

"Within 60 days, it is thought that the oil-refining industry will be running at full capacity, and also some lines of the steel industry, particularly the tin-plate industry, will have materially increased operations.

"The fertilizer industry is being held up at present by lack of shipping for export trade. There is a brisk demand for fertilizers abroad, and a large number of contracts have been made, but the manufacturers are unable to make deliveries."

Little Spanish Pyrite Coming In

There is no decided change in the foreign pyrite situation since January, according to the information reaching R. R. Hornor, of the Bureau of Mines. One of the principal importers of pyrite recently stated that no Spanish pyrite is coming into the market except the last of the 125,000 tons allocated by the War Industries Board to the acid manufacturers of this country. There was a charter late in December, but there is no more now under way.

CALIFORNIA PRODUCES 70 PER CENT OF QUICKSILVER OUTPUT OF U. S.

Fletcher Hamilton, State Mineralogist, announces that the new bulletin of the State Mining Bureau on quicksilver has been received from the printer and is now ready for distribution. It is Bulletin No. 78, entitled "Quicksilver Resources of California," by Walter W. Bradley of the Bureau's staff. It is the first work published in fifteen years dealing distinctly with quicksilver and its metallurgy, and had but two predecessors in this particular field: G. F. Becker's "Geology of the Quicksilver Deposits of the Pacific Slope," Monograph XIII of the U. S. Geological Survey, and Wm. Forstner's "Quicksilver Resources of California," Bulletin No. 27 of the State Mining Bureau; though this new publication covers a much greater scope, particularly as regards the ore-dressing and metallurgy of quicksilver.

California yields approximately 70 per cent of the quicksilver output of the United States; and since 1850 has produced a total of 2,137,728 flasks (to the end of 1917) valued at \$101,992,560. The book contains production and price charts which show the annual fluctuations of values and quantities; and the entire work is profusely illustrated with photographs, drawings, and geological maps. The section on metallurgy contains numerous photographic cuts and line drawings of furnaces, condensers, and other plant equipment. A sectional drawing of the very recently installed rotary furnaces of the New Idria Company is included.

The metallurgical work detailed includes an account of the author's original investigations relative to concentration methods as applied to quicksilver ores, which included treatment on tables with water, flotation with oils, and solution by an alkaline sulphide.

The quicksilver industry, though relatively speaking not as large nor as extensive as some other branches of the mineral business, is nevertheless a very vital one in peace times as well as in war. In normal peace times 50 per cent of our quicksilver consumption goes into fulminate for blasting caps for quarrying and mining as well as ammunition. In addition, a considerable amount goes into the manufacture of drugs. Some also is used in gold and silver mining. We should not permit ourselves to become dependent on foreign sources for this very necessary metal. Without a sufficiently high protective import duty, the United States is at the present time in danger of having its domestic quicksilver industry throttled by foreign competition, particularly from Mexico and Spain. The recovery of quicksilver requires capital for equipment and time for development, and is not a business which can be picked up and put on a producing basis at a moment's notice.



MARTIN D. FOSTER

Member of the War Minerals Relief Commission

WAR MINERALS RELIEF COMMISSION IS APPOINTED

Former Senator J. F. Shafroth, of Colorado, Philip M. Moore, St. Louis, Mo., and former Representative M. D. Foster, of Illinois, have been appointed by Secretary of the Interior Lane as members of the commission that will have charge of the payment of the losses incurred by mining men in the production of manganese chrome, pyrites, and tungsten for war purposes.

During the war the Interior Department, the Emergency Fleet Corporation, and the War Industries, War Trade, and Shipping Boards insistently urged the mining men to produce these materials to supply the urgent needs of the nation for war purposes. When the armistice came, these mineral producers, as a result of their response to the demands of the Government, had on hand ready for delivery quantities of these materials, for which there was no peace-time market.

Congress set aside the sum of \$8,500,000 to meet claims for these losses, which must be filed within three months after the passage of the act. The law states that the claims must have been incurred between April 6, 1917, when the United States went to war, and November 12, 1918, when the armistice was signed. The Secretary of

the Interior is charged in the act with taking into consideration and charging to the claimant the market value of the minerals on hand November 12, 1918, and also the salvage or usable value of the machinery that was installed to produce these war minerals.

Mr. Moore is a former president of the American Institute of Mining Engineers and a well-known engineer.

Mr. Shafroth was a member of the Senate Committee on Mines and Mining of Sixty-fifth Congress and Mr. Foster was the chairman of the House Committee on Mines and Mining.

The commission has sent out a lengthy questionnaire to guide operators who have claims to file. These are now being received and will be considered at once. No awards will be made until all claims have been filed.

LACK OF BUYING KEEPS MARKET DULL FOR MINERAL PRODUCTS

In the market for mineral raw materials, a general dullness continues, according to the Bureau of Mines. Many important producing districts have curtailed operations by as much as 50 per cent. The explanation of the situation is found in the fact that large stocks were accumulated before the signing of the armistice and have not yet been absorbed. The consumers are largely keeping out of the market until it becomes apparent that some stable level of prices has been reached, and until the extent of the post-war demand becomes evident. This situation is further aggravated by the present shortage in ships and the resulting uncertainty as to when foreign imports may be resumed on a large scale.

WORK OUT PLAN FOR SELLING GOVERNMENT'S SURPLUS COPPER

A conference between representatives of the copper producers and officials of the War Department was held in New York March 3. The producers present at this conference represented approximately 90 per cent of the copper production. A tentative agreement was reached whereby the copper producers will market the Government surplus copper at the prevailing market price, charging the Government the actual cost of so doing. It will be distributed by the producers in connection with their own product, the minimum monthly amount being fixed and the actual amount disposed of being a certain percentage of their total sales, if this exceeds the minimum amount. It was also agreed that the copper will be entirely distributed within fifteen months. Final arrangements regarding this sale will be completed within a short time.

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NAVY LIKELY TO NEED ALL ITS SPELTER—MANY MINES CLOSE

F. B. Hyder, in charge of zinc for the Bureau of Mines, says:

"The average annual rate of spelter production for the period December 21 to January 25 was 562,349 short tons, as indicated by the weekly reports of the United States Geological Survey. These reports show an increased rate of production although during the period of five weeks, December 21 to January 25, there was an additional accumulation of more than a week's production.

"Curtailement of production will be necessary to prevent further accumulation and to permit the absorption of existing stocks. This has now begun. The Pueblo plant of the

United States Zinc Co. (A. S. & R. Co.) has closed. This plant has an annual capacity of 4,432 tons.

"It is reported that the Navy Department will need all its stocks and may take over some in possession of the War Department. The War Department, however, apparently has a few thousand tons of spelter which will have to be sold. Conferences have been held with the trade by the director of sales, War Department, for the purpose of determining methods of disposal least calculated to disturb industrial conditions.

"Production is being curtailed and some mines in the Joplin and Wisconsin districts are closing on account of low prices offered for ores.

"The Anaconda Company has closed some of its mines and has stopped treatment of Butte and Superior concentrates. The Silver Standard Mine at Silverton, B. C., has closed.

"Reports of production of western mines during January are noted as follows in terms of short tons of zinc content of concentrates: Butte and Superior, 4,725; Interstate Callahan, 1,709; Snowstorm, Idaho, 1,237; Butte and Superior, Montana, 69,800; Anaconda (electrolytic spelter), 37,350."

HECTER FUEL PROMISING; WAR EXPERIMENTS TO CONTINUE

During the war the Bureau of Mines, Department of the Interior, made strenuous efforts to find a special fuel for air-planes that would be superior to others already in use. Of the numerous products and mixtures obtained, some were originated by the bureau engineers and chemists, others were suggested by outside interests. Through its own experiments or by cooperation with other organizations, notably the Research Division of the Dayton Metal Products Company and the Bureau of Standards, it was possible to establish the fact that certain types of fuels had elements of superiority that had not before been noted or appreciated. Of the fuels proving most satisfactory gasoline refined from the crude petroleum of certain producing fields was distinctly superior to the type most extensively used. The blending of moderate proportions of benzol with gasoline was found to be distinctly advantageous and motor fuel of this type would undoubtedly have been employed for military purposes if the war had continued much longer. It is believed that through the proper use of benzol and other distillates derived from coal it may be possible to embody features in the design of internal combustion motors that will notably increase their efficiency. Benzol and other coal-derived fuels are already being sold for use in automobiles and are believed to be giving satisfactory results even with present types of motors.

UTAH OPERATORS ASK DATA ON HIGH COST OF LIVING

The Utah Chapter of the American Mining Congress has just sent out the following statement, and attached thereto is a price list, to be filled in, which asks for information relative to the price paid for staple articles of food during the years 1915, 1918, and 1919. The list includes rice, flour, sugar, butter, peas, string beans, tomatoes, cream of wheat, ham, bacon, pork and beans, etc. The statement is as follows:

STATEMENT BY METAL MINE OPERATORS OF UTAH

We are addressing this to you as one whose business interests are vitally concerned with the metal mining situation in Utah. The situation is so serious that relief must come in the immediate future if the metal mining operations of the State are to continue.

When the armistice became effective, November 11, 1918, copper was selling at 26 cents a pound and lead at \$8.05 a hundred. Almost immediately thereafter the market for these metals practically disappeared, and in the case of copper there was no quotable market until the month of February, 1919. Copper is now quoted around 15 cents, with practically no buyers, and lead is in limited demand around \$5.25. There is no reason to anticipate any substantial advances in the prices of these metals for at least a year to come.

The greatly decreased prices for metals threw a heavy burden on the mining companies of this State. Many of the mines were thrown from the profit column into the loss column. Smaller producers of this and adjoining States have been compelled to suspend work entirely and the larger producers have been compelled to reduce their operations greatly. These reductions have diminished ore shipments to such an extent that the Salt Lake Valley smelters have curtailed their operations fully 50 per cent.

Many companies which have continued to work have taken a loss on their operations ever since December 1.

The mining companies have met the situation in part by reducing wages from the high point reached during the war. Reductions have amounted to from 75 cents to \$1 a day. To compare with the average wage reduction, the cost of necessities of life must be reduced about 20 per cent.

The mining companies hoped and expected that they and their employes would not be left to bear the burden alone and that there would be corre-

sponding reductions in the cost of supplies for the mines and the necessities of life for the employes.

Such, however, has not been the case. Almost without exception, supplies have continued at the war-time price levels and necessities of life are as high or higher in the mining camps as they were in July, 1918. We propose to ascertain whether this condition is due to the attitude of manufacturer, wholesaler or retailer.

The only two items of expense over which the metal mine owner has any control are payroll and supply accounts, and he must look to these for relief if he is to continue his operations.

Wages have come down. Other costs must come down or the mines will close, and if the mines close the smelters close.

We have been unable to ascertain that those who furnish supplies to us and necessities of life to our employes are making efforts to reduce the cost of these commodities. Unless action along this line is taken at once, and substantial reductions made, many more mining properties will close down in the near future. This would cause great distress to our men and their families and injury to the commercial and manufacturing interests of the state as well as to the mining industry.

We have determined to act in the matter ourselves, rather than to remain quiescent and see our own business crippled with consequent bad effect on the state as a whole.

Our preliminary inquiries disclose that costs of supplies and necessities in Salt Lake City and the mining camps are as high today as they were last July. We propose to extend our inquiries as far as possible and to take such action as will best serve our welfare and that of our employes.

Your cooperation is invited to solve a situation which, if not corrected in the immediate future, will seriously injure your business as well as ours.

We are collecting data from all sources, and ask you to assist by supplying us the information requested on the accompanying blank, together with anything else you believe would be of value in the premises.

The mining industry has borne all of the present burden it can stand. Others interested must assume part of the load unless they are prepared to sacrifice at least a considerable portion of the benefits they have derived

through mining activity and through the patronage of those who gain their livelihood from mining in this state.

An investigation just made by the operators discloses that 138 properties, which shipped 1,058,000 tons of ore in 1917, are now idle and properties which are still in operation, as well as the Salt Lake Valley smelters are operating at about 50 per cent of their capacity. The metal market, except silver, is in such shape that profits are impossible under present costs. Wages have been reduced \$1 per shift at Bingham and 75 cents per shift in the other metal camps of the state. The committee of operators having the matter in charge consists of Imer Pett, General Manager, Bingham Mines Co., and Eagle and Blue Bell Mining Company, Chairman; C. E. Allen, Manager of Mines, U. S. Smelting, Refining and Mining Company; Fred Cowans, General Manager, Utah Consolidated Mining Co.; C. F. Jennings, Assistant Purchasing Agent, Utah Copper Company; F. J. Westcott, Secretary, Silver King Coalition Mines Co. and J. B. Whitehill, Ore Purchasing Agent, International Smelting Company.

COAL PRODUCTION CONTINUES

LOW; YEAR'S GAIN SMALL

The production of bituminous coal during the past few weeks has varied but very little, and the output for the week ended March 22, estimated at 8,065,000 net tons, is no doubt a fair barometer of bituminous coal demand, says the U. S. Geological Survey in its report. As during recent weeks, the week's output fell approximately 3,000,000 net tons below the production for the same week of 1918, bringing the excess in the output for the coal year to date over the same period of last year down to 13,670,000 net tons, and it is estimated that the close of the coal year on March 31 will find the excess at not more than 8,000,000 net tons, and the actual output at approximately 558,000,000 net tons for the year. The daily average per working day during the week ended March 15 is estimated at 1,344,000 net tons, as against 1,806,000 net tons for this coal year to date, and 1,760,000 net tons for that period of the 1918 coal year ending with March 16.

Production of anthracite in the United States during the week ended March 15, estimated at 1,206,000 net tons, was approximately 20 per cent in excess of production during the week ended March 8, estimated at 989,000 net tons. Compared with the production during the week ended March 16, 1918, when the output was 2,009,000 net tons, the current week's production was exceedingly low. The daily average per working day during the week ended

March 15 is estimated at 201,000 net tons, as against 298,000 net tons for the coal year to date, and 318,000 net tons for the same period ended March 16, 1918. Total production for the period April 1, 1918, to March 15, 1919, is estimated at 89,317,000 net tons, as compared with 95,370,000 net tons during the same period of last year.

Tidewater shipments to New England during the week ended March 15, are estimated at 57,710 net tons, and are 48.2 per cent behind shipments during the week of March 8. No tonnage was loaded at Baltimore for New England, while the tonnage loaded at New York and Philadelphia, amounting to 34,156 net tons, fell 47 per cent behind the loading of the week preceding, and Hampton Roads' tonnage of 53,554 net tons fell 49 per cent behind. Rail shipments during the week to New England were not reported.

Shipments of bituminous coal from the North Atlantic ports and Hampton Roads to all points, during the week ended March 15, are estimated at 321,064 net tons, and are 29.4 per cent behind shipments during the week preceding. Baltimore, with a loading of 35,069 net tons, was the lone harbor to report improvement, the current week's shipments exceeding that of the preceding week by 57.7 per cent. Shipments from New York and Philadelphia during the week of March 15 fell 48.1 per cent, and from Hampton Roads, 19.4 per cent.

Beehive coke production in the United States during the week ended March 15 is estimated at 429,446 net tons, as against 441,031 net tons during the week of March 8 and 604,516 net tons during the corresponding week of last year. The daily average per working day during the current week is estimated at 71,574 net tons, and while slightly in excess of the daily average for the calendar year to date, estimated at 70,402 net tons, is considerably below the daily average for the same period of 1918, estimated at 79,312 net tons. Production during the week in Pennsylvania, Virginia, Kentucky, and the far west states fell below that of the week of March 8, while considerable improvement occurred in West Virginia, Alabama, Tennessee, and Georgia. Compared with the week of March 15, 1918, the week's production in all states is exceedingly low.

The mines of the country have been operated during the past four weeks at approximately 50 per cent of their full time, with time losses due to labor and car shortage, mine disability and lack of market, fluctuating but very little from week to week. The real limiting factor is, of course, lack of demand, and unless the "buy early" campaign, inaugurated by the United States Fuel Administration is taken seriously by the consumers of the country, very little improvement may be expected in the full-time operation of the mines until the stocks accumulated last summer and fall are more generally used up.

NATURAL GAS ORDER FOR MIDDLE WEST IS MODIFIED

On account of the prevailing mild weather and the lateness of the season, the United States Fuel Administration has announced that it has acted favorably upon an application for the modification of an order issued on December 12. This order limited to preferred classes the supply of natural gas during the winter months in communities of Ohio and Indiana dependent on the supply of the Logan Natural Gas and Fuel Company.

This action is also the result of a hearing held in Pittsburgh on February 17 at which no decision was reached because the company, through whose mains the gas supply flows, was unprepared to furnish an estimate of the surplus supply, which they claimed to have available. This estimate has since been furnished.

The order modifies and amends the order of December 12 as follows:

"Natural gas may be distributed for industrial purposes to consumers classified in a lower class than class 3 out of any actual surplus available throughout the various communities served by the above companies, to be distributed equitably to consumers desiring same. However, it is expressly directed that in the event of the pressure at either Richmond, Ind., or Muncie, Ind., falling below 25 pounds, or in the event the Weather Bureau forecasts a material drop in temperature that would create a demand by domestic consumers for all of the available supply, then the distribution to such industrial consumers, not only in class 4, but those in 3 and 2 if necessary, shall be discontinued immediately and shall not be resumed as to class 4 until, and unless, the pressure at the aforesaid cities shall have been at least 25 pounds for at least forty-eight hours and the weather conditions justify a resumption of such distribution.

"The Logan Natural Gas and Fuel Company is directed to advise promptly all of the respective companies to which it furnishes gas, of any conditions, including weather forecasts, that will probably result in curtailing the quantity of gas so supplied to them. This notice should be given as far in advance as possible, so that the companies to whom gas is supplied may in turn notify promptly their customers in class 4 or higher. Notification of ability to resume delivery must be given with equal promptness.

"It is the desire of the Fuel Administration to facilitate the reasonable distribution of all surplus gas to industrial consumers, but it is desired to emphasize the fact that the distribution to domestic consumers in the respective communities affected by this order is of first importance.

This order is made in an endeavor to supply adequately the domestic needs and at the same time make any surplus promptly available for industrial consumers.

"If it is found that this order works any undue hardship upon domestic consumers, the order of December 12 will be reinstated immediately."

The city authorities of the communities affected are expected to notify their local natural-gas companies and the Fuel Administration, if under the amended regulations the reasonable demands of domestic consumers are not supplied.

The Reserve Natural Gas Company of West Virginia supplies the Logan Natural Gas and Fuel Company of Ohio, which carries and distributes this supply across the State and delivers in turn to the Central Indiana Gas Company and other Indiana companies for distribution in that State.

The order issued on December 12 directed the discontinuance of supply during the winter to consumers classified in a lower class than Class III, unless otherwise ordered. Classes I, II, and III include domestic and other uses defined as most essential.

Magnesite Industry Quiet.

The magnesite industry continues in much the same condition as in January and late in 1918. Some of the consuming companies are taking advantage of the quiet condition to make necessary repairs, or changes, at their plants.

One of the most important factors in the success of Austrian magnesite has been the careful standardization of the finished product, attained only by careful selection and preparation of the raw material, and skillful burning, whereby a product of uniform quality has been assured. Uniformity and close adherence to specifications undoubtedly have been important factors in the growth of both Austrian and Grecian business in the United States. These factors are called to the attention of certain of our domestic producers because laxity on the part of a few of them in these respects has caused some dissatisfaction among certain domestic consumers, and unfortunately an unsympathetic attitude toward them, at the present time.—W. C. PHALEN, *Bureau of Mines*.

Coal production in this country, having been at a low ebb for the last five months, there are fears of a severe shortage next winter, particularly if the weather should be cold and stormy. The economy which will be effected by the "daylight saving" law this year, therefore, may prove to be a direct advantage.

MINERALS SEPARATION SITUATION TERSELY REVIEWED IN REPORT

The various minerals-separation companies have successively claimed to own patents covering an improved process of ore concentration. Ore concentration in metallurgical operations is the separation of the mineral or metallic part of the ore from the nonmetallic or worthless material found associated with it in nature, in order that the valuable metallic particles may be in proper condition for the subsequent process of smelting. Hence the name "minerals separation." This and the following are contained in the annual report of the Alien Property Custodian.

Expressed in language which laymen can understand, this new process may be described as the addition of a very small quantity of oil to the ore pulp (which is ore finely pulverized floating on water) followed by vigorous agitation of the pulp, and the introduction of air currents into the mixture resulting in the development and distribution throughout the mixture of small bubbles of air which attach to themselves the valuable metallic particles and with them rise to the surface, forming a mineral froth of such coherency as to afford full opportunity for its removal from the surface for further treatment of the metallic particles, while the worthless material sinks to the bottom.

Prior to the invention of this new process, ore concentration, or the separation of the mineral from the useless parts in ore, was effected by the water or gravity process. In that process the ore was mixed with water forming the ore pulp; the pulp was shaken, thereby separating the metallic particles from the worthless parts of the ore, and the metallic particles being heavier than the water, sank to the bottom, while the worthless particles, being lighter than the metallic particles, though heavier than the water, were subjected to an up current of water which carried the worthless particles to the surface and over the container. The old process was commercially unsuccessful because it permitted a large percentage of the metal in the ore to be carried off with the worthless particles. The material thus rejected was called slime. For years dumps consisting of millions of tons of such slime, which were known to contain a large percentage of metal, lay useless because there was no known process by which they could be treated and the metal extracted.

In 1906 Henry Livingstone Sulman, Hugh Fitzalis, Kirkpatrick Picard, and John Ballot, all of London, England, claiming to be the inventors of the new process, obtained a patent thereon in the United States. In 1910 Sulman and Henry Howard Greenway and Arthur Howard Higgins, all of London, obtained another patent in the United

States, and in 1914 Greenway, then of Melbourne, Australia, obtained a third patent in the United States, the latter two patents involving the same process as the first one, but including improvements thereon. These patents run for a period of seventeen years from their respective dates.

In 1905, and before the first United States patent was obtained, the patentees obtained a patent in England exactly similar to the first United States patent. The validity of the English patent was attacked in the English courts, but was sustained by the House of Lords. (*Minerals Separation (Ltd.) vs. British Ore Concentration Syndicate (Ltd.)*, 27 R. P. C., 33).

In 1903 Minerals Separation (Ltd), which will be hereafter designated as the parent company, was formed under the English law. The three United States patents were assigned to this company.

In 1910 the parent company having acquired the United States patents, and similar patents obtained in Canada and Mexico, conveyed these patents to a corporation called Minerals Separation American Syndicate (Ltd.), for the purpose of enabling the American syndicate to exploit these patents in America. This, too, was an English corporation.

In 1911 the American syndicate made a contract with Beer, Sondheimer & Co., whereby it gave to that firm the exclusive agency to represent the syndicate in America. For reasons which are unimportant to the present inquiry, this first American syndicate was soon dissolved and a new syndicate was formed, called Minerals Separation American Syndicate (1913) (Ltd.). This, too, was a British company. The 1913 syndicate renewed the agency agreement of Beer, Sondheimer & Co., and appointed that firm sole agents to conduct all of the syndicate's commercial affairs in the United States, Canada, and Mexico, the agency to continue for a minimum period of ten years with a provision for renewal for the rest of the life of the patents. Beer, Sondheimer & Co. were to receive a commission of 10 per cent of all gross royalties received for the use of the patents and 10 per cent on all profit-sharing business (the syndicate intending not only to give licenses, but also to buy up and treat ore), and also a percentage as a commission of the sale of products so treated by the syndicate.

When the agency agreement was made, Beer, Sondheimer & Co. had an American branch of its business in New York City, which was in charge of Benno Elkan and Otto Frohuknecht, and was being conducted under the name of Beer, Sondheimer & Co., American branch. The parties entered into the performance of the agreement, and inasmuch as most, if not all, of the business was done in the United

States, the agent's end of the business was conducted by the American branch of Beer, Sondheimer & Co.

In addition to having the exclusive agency, Beer, Sondheimer & Co. were also stockholders of the 1913 syndicate, owning 32,615 shares of said stock. In 1916 the property of the 1913 syndicate was conveyed to an American corporation called Minerals Separation North American Corporation, and each stockholder became entitled to two shares of the American corporation's stock for each share of the 1913 syndicate stock.

The importance of the control by this German-owned branch of Beer, Sondheimer & Co. of the minerals-separation process, and the power to grant or withhold from the United States metal-industry licenses to use the flotation process, can hardly be overestimated. The Custodian has taken over all of the minerals-separation stock held by Beer, Sondheimer & Co., and the latter's control of the minerals-separation process in the United States has broken.

TWENTY-FIRST CONVENTION OF CANADIAN MINING INSTITUTE

The twenty-first annual convention of the Canadian Mining Institute was held in Montreal March 5-7.

The president, Dr. D. B. Dowling, of Ottawa, emphasized the cooperative spirit now existing between the Canadian Mining Institute and the American Institute of Mining and Metallurgy, and paid high tribute to the work of the Geological Survey in the development of latent natural resources during the war. A number of members of the institute who had seen service overseas were present and joined in the general discussions of readjustment problems. The proposition to change the name of the institute to the "Institute of Mining and Metallurgy" was finally referred to the membership by letter ballot. The first evening's session was devoted to illustrated lectures on the "Operation of the British Forces in Palestine," by D. H. M. Ami, and the "Coronation Gulf Expedition," by Mr. K. G. Chipman.

Among the important discussions of the second day, "Mine Taxation" and "Uniform Mining Laws," received special attention.

The address of Prof. H. C. Parmelee on "Industrial Cooperation," and the paper of Mr. C. V. Corless, entitled "Industry, Democracy and Education," were valuable contributions to the solution of present day problems. Mr. Corless, in conclusion, said: "Industry will not in any case become fully democratized today, or tomorrow, or even in the near future. But if we do not misread the meaning of present social movements of world-wide extent, progress in this direction is as irresistible as the tides. To prolong opposition to it is to

risk being overwhelmed by the flood. The wise and sensible course is for society to recognize its own movement, to undertake the most careful study of the economic and ethical conditions giving rise to it, and to arrange as quickly as may be for widespread social training of its members, in preparation for such utilization of these new powers as may result in the greatest justice and benefit to all."

Mr. D. H. McDougall, of New Glasgow, Nova Scotia, was elected president for the ensuing year. Moving pictures, just released by the War Department, were shown for the first time at the smoker that evening, depicting Canadian troops on the Western front. Capt. L. B. Reynolds gave an interesting talk on the difficulties encountered in tunnelling, which was followed by an illustrated paper on "Tunnelling," by Maj. R. W. Coulthard.

The last day of the session the institute held group meetings, in which the various branches of the mining industry discussed oil shales, pulverized fuels, copper smelting, iron ore deposits, internal corrosion of wire cables, etc.

In the evening the annual banquet was held at the Montreal Club, the guest of the evening being His Excellency the Duke of Devonshire, Governor General of Canada, who was introduced by President McDougall.

Dr. John A. Dresser, the toastmaster, then called on Mr. Horace V. Winchell, who spoke in behalf of the American Institute of Mining and Metallurgy; Dr. Henry M. Payne, who responded to the American Mining Congress; Mr. F. S. Keith, of the Canadian Engineering Institute; Dr. E. A. Holbrook, representing the American Bureau of Mines; Mr. A. D. McTier, Vice-President of the Canadian Pacific Railway, and Mr. Bradley Stoughton, of the American Institute of Mining and Metallurgical Engineers.

HALTING DEMAND FOR COAL ALARMS FUEL ADMINISTRATION

The best time to put in orders with the dealers for next winter's supply of coal is now, when it is plentiful and the demand for it is light, according to the United States Fuel Administration. Analysis of coal production records since November 1 last was said to indicate that coal will be far from plentiful next winter, if production continues to fall.

Mild weather since November has eventuated in very little buying of coal. Both large and small consumers have met their needs mostly from stocks laid in last summer and fall. The mines have had fewer orders than usual, and the sharp decrease in demand has been accompanied by a decrease in production.

The output from the mines during the eighteen weeks from November 1, 1918, to March 8, 1919 (including both anthracite and bituminous coal) in round figures was 62,000,000 tons less than during the next

preceding eighteen weeks and 31,000,000 tons less than during the corresponding period of the previous year, although severe storms curtailed production the previous year, previous year.

Normally, there is a considerable increase in demand for coal from year to year—that is, an increased consumption and a consequent increase in production.

Compared with preceding years the increase in 1918 was not great, having been cut down by influenza and other factors, including the signing of the armistice. The following table shows:

Year.	Increase in Coal Production Over Previous Year.
1915.....	18,000,000 net tons
1916.....	60,000,000 net tons
1917.....	61,000,000 net tons
1918.....	34,000,000 net tons

Comparing the present coal year, ending April 1, with the same period of a year ago, the output so far has been only about 11,000,000 tons higher. This is accounted for by the tremendous decline in production largely since October 1, balancing the magnificent showing made by the miners and operators up to the autumn of 1918.

SHERLEY AND SPENCER NAMED FOR IMPORTANT R. R. OFFICES

Walker D. Hines, Director General of Railroads, announces the appointment of Swager Sherley as director of the Division of Finance of the Railroad Administration. Announcement has previously been made of the resignation of Mr. John Skelton Williams as director of the Division of Finance and Purchases and the intention to divide this division into two divisions, namely, the Division of Finance and the Division of Purchases.

Mr. Sherley accepted the appointment tendered him by the Director General and has assumed his new duties.

Mr. Sherley is a native of Louisville, Ky., and is a lawyer by profession, having begun practice in 1891 in Louisville, following his graduation from the University of Virginia. He was a member of the House of Representatives in the 58th, 59th, 60th, 61st, 62d, 63d, 64th and 65th Congresses. For a number of years he has been a member of the House Appropriations Committee and succeeded Representative Fitzgerald of New York as chairman of that committee. Through his long service on the Appropriations Committee he has become unusually familiar with government finances and has become an expert in extricating the essential facts from a great mass of financial details.

In announcing the appointment, Director General Hines said:

"I have known Mr. Sherley personally for many years and have always had an unusually high regard for him as a lawyer and as a

man. I deem myself very fortunate in having succeeded in persuading him to accept the appointment as director of the Division of Finance of the Railroad Administration. I have been in intimate contact with him recently during the consideration before the Congress of the appropriation requested by the Railroad Administration and have been deeply impressed by his knowledge of financial and legal problems, the thoroughness of his methods, and the accuracy of his insight. He strips away the unimportant and deals with the very heart of his problems."

Mr. Hines also announced the appointment of Henry B. Spencer as director of the Division of Purchases, effective March 15. The Division of Purchases is a new division, having been formerly a part of the Division of Finance and Purchases, which has been separated into two divisions.

Spencer Heads Purchases Division

Walker D. Hines, Director General of Railroads, on March 12 announced the appointment of Henry B. Spencer as Director of the Division of Purchases, effective March 15. The Division of Purchases is a new division, having been formerly a part of the Division of Finance and Purchases, which has been separated into two divisions. Mr. Swager Sherley has already accepted the appointment as Director of the Division of Finance.

Mr. Spencer has been connected with the Southern Railway System since 1897, and at present is vice-president of that system, a position which he is resigning. He has had long experience in connection with railroad purchasing problems.

Coal Loadings

A report has been received by the Director General from the Car Service Section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for week ended March 1, 1919, as compared with the same period of 1918. A summary follows:

	1919	1918
Total cars bituminous.....	137,955	197,299
Total cars anthracite.....	21,438	39,777
Total cars lignite.....	3,399	3,606

Grand total of all cars coal 162,792 240,682

A summary of reports for week ended March 8, 1919, as compared with the same period of 1918, based on actual reports from most roads, but with the results of some roads estimated, follows:

	1919	1918
Total cars bituminous.....	137,557	201,170
Total cars anthracite.....	19,249	41,487
Total cars lignite.....	3,466	3,296

Grand total of all cars coal 160,272 245,953

PRE-WAR PRICES AND PRE-WAR WAGE SCALE NOT TO RETURN, SAYS THE LABOR DEPARTMENT

Reductions in steel prices, as announced by the Industrial Board of the Department of Commerce, are held to be no more important to the general business situation, especially in the building and construction industries, than are the board's statements that present wage levels should not be disturbed and pre-war prices are out of the question.

Since January there have been received in the Department of Labor thousands of letters from architects, building contractors, prospective investors in buildings, and from state and municipal authorities in which it was represented that uncertainty as to prices and wages, rather than the present high level of prices and wages, were the stubborn obstacles to be eliminated before a general revival of building and construction work would be had.

Recently the Information and Education Service, in the Department of Labor, has been putting out the results of investigations by trained economists, in the price and wages fields. The conclusion has been, and in this conclusion so eminent an authority as Professor Irving Fisher of Yale University has concurred, that the popular expectation of a reestablishment of pre-war prices is not justified. It was asserted that wages had not advanced in proportion to living costs, and that while minor price changes might be expected in some fields, to use the language of Professor Fisher, "we are on a permanently higher price level, and the sooner business men of the country take this view and adjust themselves to it, the sooner will they save themselves and the nation from the misfortune which will come, if we persist in our present false hope."

Since the steel industry is one which most profited from the demands of the war, it probably can afford to make a greater reduction in present prices than may be expected in other industries. Building and construction authorities are not, therefore, disposed to believe that subsequent price negotiations by the Industrial Board of the Department of Commerce will develop reductions proportionately as marked as those announced for steel. They assert that the board's statement, "in view of the higher costs developed throughout the world as a result of the war, a return to anything like pre-war prices is regarded as out of the question," is a sound conclusion that timely corroboration of the statements made by the Department of Labor in its campaign to stimulate building and construction work.

Two departments of the Government—the Department of Labor and the Department of Commerce—working independently, have arrived at the same conviction, namely, that the country is on a new price level, and to business projects in the hope that pre-war

prices again are to prevail is to jeopardize the business structure of the country, delay the return of prosperity, and, in the end, discover, as Professor Fisher puts it, "to talk reverently of 1913-14 prices is to speak a dead language today."

Investigation of contracts on building and construction projects let in February, 1919, made by the Department of Labor, produced convincing evidence that a majority of the contractors and builders in the country have come to understand the situation. When the contracts let in February of 1913 and 1914 are revised to the basis of present construction prices, and these figures are compared with the contracts let in February, 1919, the comparison shows that February, 1919, was better than 90 per cent of normal. Now that the Industrial Board of the Department of Commerce adds its testimony on the futility of delaying business in the hope of availing of pre-war prices, a reasonable expectation is that building and construction work will show a further approximation of normal.

Through all the economic studies recently issued by the Information and Education Service of the Department of Labor has been such evidence as clearly indicated the imprudence of any policy contemplating radical changes in existing wage scales. In the recent conference of governors and mayors in Washington, it was clearly the consensus of opinion that readjustment should not and could not mean an immediate pressing down of wages. This because wages have not gone up in the same proportion as living costs, further, because it is generally believed prudent to do everything possible to maintain the higher living standards which have been evolved during the war.

Notwithstanding these developments, there are many in industry who have been urging wage reductions. There has been enough of this agitation to create an uneasiness in the ranks of labor, and uncertainty as to the future labor conditions in the minds of prospective builders and contractors. For this reason the precedent established by the Industrial Board of the Department of Commerce in the steel case should have a very beneficial effect. On the wage matter, in the statement announcing the new prices on steel, the board says:

"It is fully understood and expected that the recent wage rates or agreements will not be interfered with, the approved prices having this in view."

All economists and practical business men agree currency conditions are an important factor in present prices. This cannot be admitted without admitting also that present currency conditions are an important factor in present wages. Money is just as cheap when it buys labor as when it buys steel, and those who talk of pre-war wage scales under present currency conditions ignore entirely the fact that we do not have pre-war dollars

and we will not have them for many years to come.

The Department of Labor holds that wage scales have less to do with construction and manufacturing costs than efficiency of labor. Investigations in this field suggest a gradual improvement in efficiency of labor as the readjustment progresses and industry gets away from the high-speed, forced-production regime incident to war. Mr. Morton Chase Tuttle, who served as production manager for the United States Emergency Fleet Corporation, in a recent interview for the *Christian Science Monitor*, called attention to this improvement in efficiency. The *Monitor* says:

"That a reduced wage scale is not an indispensable preliminary to resumption of activities in the building trades is the opinion of Mr. Morton Chase Tuttle, who has just returned to Boston after more than a year of service as productive manager for the United States Emergency Fleet Corporation. Mr. Tuttle bases his judgment on recent investigations of large construction enterprises from New England to Florida, supplemented by studies carried out under his direction by a construction company in Boston, of which he is general manager. This indicated that increased efficiency of labor is bringing down costs, even while wages remain at existing altitudes.

"In the course of viewing numerous undertakings more or less closely associated with the interests of the Government," says Mr. Tuttle, "I have been lately impressed to find the statement commonly made that cost of operation was beginning to show noticeable decline. And this, almost without exception, was attributed to increased efficiency of the labor force, due in part to the opportunity for weeding out the less dependable workers, in part to the growing desire of all members of the force to retain their jobs.

"Owing to inadequate or otherwise unsatisfactory cost studies maintained in connection with most of these undertakings, I found it impossible fully to check the statement by actual figures. Accordingly, I asked my own company to make out the cost of any one process in an operation continued over a period of several weeks. That which was selected was a piece of concrete work. The costs studied were those for the common labor employed in this work from January 7 to February 4 of the present year, inclusive. During the period the wage scale remained unaltered, but the personnel of the labor force underwent frequent changes. A graph of the labor cost of the work during the period noted shows a sharp and almost undeviating decline from day to day. On February 4 these costs were exactly 50 per cent less per unit than were those on January 7. It is my belief that the experience of my company is by no means isolated, and that in almost any labor force there lies the opportunity of realizing economies ranging from 20 to 50 per cent without interfering with the wage scale.

"This implies, of course, that there is now increased opportunity for selecting men according to their suitability for a given task, and in increased eagerness on the part of the men to make good. The whole country ought soon to feel the effect of it in general improvement. It is a case of supplanting so-called liquidation of labor by proper adaptation of labor as a means of keeping the cost of doing things within the bounds of utility.

"State of mind is often as potent a factor in ultimate labor cost as is the rate per hour. Anyone experienced in handling workmen has recognized the difference in output between cheerful, capable men, anxious to hold their places and one who is a little disgruntled, and quite conscious that he can get another job the moment he drops the present one. Multiply either case by thousands of individual instances, and I believe that there will be found, in shifts of mental attitude, the explanation of much of the variation which occurs in unit cost. And this, after all, is the element of labor which directly affects the profits of the employer."

LARGE COAL TONNAGE SAVED BY DAYLIGHT SAVING LAW

Because of the fact that the clocks of this country were moved forward one hour at 2 o'clock March 30, in compliance with the "daylight saving" law, the United States Fuel Administration calls attention to the estimates made last October that 1,250,000 tons of coal were saved during seven months last year through the operation of this law.

The plan was adopted in the United States after its success had been demonstrated in Great Britain, France, Italy, Germany, Austria, Holland, Denmark, Sweden, Norway, Portugal, Australia and Iceland. In European countries, the period during which the clock is advanced is in most cases shorter than the seven months adopted as the United States plan, because Europe is farther from the Equator than this country, and early sunrise prevails during a much smaller portion of the year.

In Great Britain the plan is operative only during four and a half months, while in France the clocks are moved forward for a period of only three and a half months.

Oil-Well Drilling Banned

In view of reports that petroleum companies, particularly those which refused to make manifestations prescribed in decree of July 31, 1918, had been drilling wells on their properties without proper permission, the Department of Industry at Mexico City has issued a circular, published in the press there, threatening to punish companies and individuals as prescribed in the decree issued by First Chief Carranza on March 7, 1915, for drilling wells or doing other petroleum development work, past or future, without permission of the federal executive required by the decree.

ALIEN PROPERTY CUSTODIAN TELLS OF "GERMAN OCTOPUS"

To appreciate what has been accomplished in ridding the metal industry of the United States of the influences of the so-called "German metal octopus," it is necessary to briefly sketch the growth of the German metal concerns on their native soil, and then to point out how these gradually invaded foreign markets and to what extent the American metal markets came under their domination, says the Alien Property Custodian in his annual report. At the outset, however, it must be pointed out that however much justification there is for the assertion that the German metal combine controlled the metal markets of Europe and Australia—especially in zinc and lead—it is not the fact that they controlled the metal market of the United States. Their influence here was potent, no doubt, and it was growing, but it was far from sufficient to control either the production or the price of metals in the United States. The octopus was spreading his tentacles across the Atlantic, but he had not yet assumed the "octopian" proportions.

The Alien Property Custodian has taken over the German-owned metal concerns in the United States, and, by disbanding some and Americanizing others, it is believed that the German influences in our metal market have been completely eliminated.

Germany has never been a great producer of metals. Her production of copper is but 3 per cent of the world's output, against about 60 per cent produced by the United States. Her production of refined zinc is about 28 per cent of the world's output, and of lead she produces 16 per cent of the world's total production. Yet unquestionably Germany has for years controlled the zinc and lead metal markets of Europe and of the rest of the world except the United States. What is the secret of her power? It is not alone that she is a large consumer of metal. For though she consumes annually about 500,000,000 pounds of copper more than she produces, she consumes only 23 per cent of the world's zinc against her own production of 28 per cent of the world's output; and of lead she consumes only 20 per cent of the world's output against her own production of about 16 per cent. Yet she completely controls the zinc and lead markets of the world. The secret of her power lies in the fact that her great metal firms act in concert in the purchase of zinc and lead ores, cooperate in the control of smelters and refineries, and, by the free use of unlimited credit extended to them by the German banks, who themselves participate in these industrial enterprises, they are enabled to buy and sell huge quantities of metals, thereby influencing the market prices.

There are but three great international metal concerns in Germany—the Metallgesellschaft, of Frankfurt; Aron Hirsch & Sohn, of Halberstadt, and Beer, Sondheimer & Co., of Frankfurt. The giant organizations, whose operations now circle the globe, are of comparatively recent development and are the growth of very small and humble beginnings.

To summarize the result of the activities of the Alien Property Custodian in so far as they affect German interests and German influences in the American metal market, it may be said that, finding those interests and influences centered in three well-defined corporations, American in name but all controlled by the German metal triumvirate, the activities of which three corporations were not confined solely to the United States but penetrated into Mexico and South America, owning mines, smelters, refineries, oil concessions, railways, dealing in every known metal, doing a business which annually ran into hundreds of millions of dollars—he has succeeded in thoroughly Americanizing two of these concerns and liquidating the third, thereby entirely eliminating German influences in our metal markets and our metal industry.

The German metal octopus had spread his tentacles across the ocean and over the United States into Mexico and South America, but for the present surely, and for all time it is hoped, he has been driven back and a wall of Americanism erected which, it is hoped, he will never be able again to scale.

SEVERAL ARKANSAS MANGANESE MINES CONTINUE TO OPERATE

W. R. Crane, of the Bureau of Mines, has the following to say on the manganese situation:

"At present there is little being done in the manganese districts, yet there is a decided improvement in the outlook for future resumption of reduction. It is doubtful, however, under the existing freight rates, whether mines in the Western States can compete with foreign ores. That the southern and centrally located districts can possibly compete with foreign ores is evident from the increasing activities reported, which are particularly noticeable in the Batesville, Ark., district, where at least four companies have resumed operations on a small scale.

"The steel corporation has contracted for 200 tons of ore from the Batesville district, delivery not to be begin until April 1. Several other contracts have been negotiated, and as a whole a more optimistic feeling prevails, which is reflected in the erection of washing plants, work on which had been temporarily suspended."

WATSON NEW HEAD OF CONSOLIDATION COAL CO.

A change of especial interest to the coal trade is that which emanated from the meeting of the Board of Directors of the Consolidation Coal Company, held in Baltimore March 19, electing Lieut. Col. Clarence W. Watson to the office of president, succeeding Jere H. Wheelwright, who was elected chairman of the board at the same meeting.

Mr. Wheelwright, the new chairman of the board, was born May 15, 1867, in Westmoreland County, Va. After finishing his primary education he was graduated from the Law Department of the Columbian University in the District of Columbia, in 1890. Following the legal profession in Seattle, Wash., until 1893, he became associated with Senator Camden and his successor, Senator Elkins, of West Virginia, who were interested in coal properties. The Fairmont Coal Company was organized by Mr. Wheelwright and Mr. Watson, and in 1903 they gained the holdings of the B. & O. R. R. in the Consolidation Coal Company. Upon Mr. Watson's election to the United States Senate Mr. Wheelwright was made president of the company.

Lieut. Col. Clarence W. Watson, now president of the Consolidation Coal Company, was educated in the public schools of Fairmont, W. Va. Among his early achievements were the organization with Mr. Wheelwright of the Consolidation Coal Company. Upon Mr. Watson's election to the United States Senate in 1911, retiring as president of the Consolidation Coal Company, but being made chairman of the board, now succeeded by Mr. Wheelwright.

When the United States joined the allies Mr. Watson volunteered his services and received the commission of lieutenant colonel in the Procurement Division of the Ordnance Department. Upon his release from the service he returned to the coal business, where he will continue as president of the Consolidation Coal Company.

At the meeting held in Baltimore on March 19, F. W. Wilshire, New York City; Sprigg D. Camden, Parkersburg, and Edward M. Mancourt, Detroit, were elected vice-presidents. George T. Watson and Fairfax S. Landstreet retire as directors and become assistants to the president.

The new directors are: Carl R. Gray, president, W. Md. R. R.; Brooks Fleming, succeeding his father, A. B. Fleming, and George T. Watson, succeeding his father, S. L. Watson.

INCREASED IMPORTS SHOW THAT USE OF CHROMIUM NOW ASSUMING NORMAL PROPORTIONS

W. R. Crane, of the Bureau of Mines, comments as follows on the chrome situation:

"Little interest is exhibited in either the production or purchase of chromite. Considerable speculation is indulged in regarding the ability of either American or Canadian purchasers to compete with such foreign fields as New Caledonia and Brazil. No market quotations on chrome ore nor ferrochrome are available.

"While domestic production of chrome ore is practically at a standstill, and there is no market for the ores except for those shipping on old contracts, yet the imports are of fair size and are increasing.

"The imports in January were nearly double those for December, showing that the use of chromium is assuming normal proportions."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of THE MINING CONGRESS JOURNAL, published monthly at Washington, D. C., for April 1, 1919.

City of Washington, } ss:
District of Columbia, }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared E. Russell Coombes, who, having been duly sworn according to law, deposes and says that she is the business manager of THE MINING CONGRESS JOURNAL, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
Name of Publisher—The American Mining Congress.
Postoffice address—Washington, D. C.

Officers:

Bulkeley Wells, President, Denver, Colo.
Harry L. Day, First Vice-President, Walling, Idaho.
M. S. Kennerer, Second Vice-President, New York City.

George H. Coady, Third Vice-President, Duluth, Minn.

J. F. Callbreath, Secretary.

Editor—J. F. Callbreath.

News Editor—Paul Weston.

Business Manager—E. Russell Coombes.

2. That the owners are (give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): The American Mining Congress—a corporation, not for profit. No stockholders.

3. That the known bondholders, mortgages, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

E. RUSSELL COOMBES,
Business Manager.

Sworn to and subscribed before me this 14th day of March, 1919.

(Seal.)

THOMAS C. WILLIS
(My commission expires February 20, 1922.)

COOPERATION WITH THE OIL INDUSTRY URGED STRONGLY

A message urging continuance "in some effective way" of the cooperation between the nation's oil industry and the Government, and emphasizing the value to the Allies of such cooperation during the war, by the industry under the supervision of the Fuel Administration, was contained in a letter sent by the United States Fuel Administrator, Harry A. Garfield, to the National Petroleum War Service Committee.

The letter conveyed Mr. Garfield's regrets that important conferences previously arranged in Washington prevented his attendance at a dinner in New York given by the committee to A. C. Bedford, its chairman, upon whom the French Government has conferred the title of Chevalier de la Legion d'Honneur. It said in part:

"Permit me to take this occasion to express to the committee my appreciation of its services, and to convey to Mr. Bedford my felicitations upon the honor paid to him. I can well understand the desire of the French Government to recognize the services of Mr. Bedford and his committee. It is unnecessary to recite the important part played by petroleum in the war. Abundant testimony has been offered by the chiefs of the naval and military forces to justify those immediately engaged in the production and distribution of petroleum and its products in claiming a place among the few great basic industries which furnished the supplies necessary to winning the war.

"The National Petroleum Committee was in existence prior to the creation of the Fuel Administration. It had brought together in effective cooperation the competing elements of the industry. But to my mind a more significant fact was the ready response of the committee to the call to service by the Government. The supervision of the industry required under the provisions of the Lever Act and by executive order of the President might have been rendered exceedingly difficult, but the relations established between Mr. Requa, General Director of the Oil Division of the Fuel Administration, and Mr. Bedford, chairman of the National Petroleum War Service Committee, guaranteed the cordial cooperation which has marked the relations between the Government and the industry from the first.

"I cannot allow this occasion to pass without expressing the earnest hope that the spirit of cooperation thus established between the Government and the industry—I might rather say between the public represented by the Government and the industry—should be continued in some ef-

fective way. The influences which led capital and labor to unite in a common purpose, which overcame hurtful competition, and which brought the representatives of Government and industry into cordial and effective cooperation—these influences still exist, for, except to the few who sought material gain, they are rooted in desire for the common good and appreciation of a new era in which human welfare is placed above material possessions.

"We have refused to allow one world group to dominate other world groups. Free people, who are also understanding people, perceive that the spirit, not the form, of autocracy excites opposition and that this spirit exists within our borders as well as abroad, and is expressed in movements organized and supported by the extremists at each end of the social and economic scale. The National Petroleum War Service Committee, which has so effectively and generously cooperated with the Government during the war, will unquestionably see both the wisdom and the necessity of continuing that cooperation to make safe the democracy for which we have fought."

NITRATE STOCKS TO BE SOLD THROUGH ORIGINAL IMPORTERS

As a result of a conference held by representatives of the sodium nitrate importers and members of the sales office of the War Department, an agreement has been reached whereby government surplus stocks of sodium nitrate will be disposed of by the same people from whom it was purchased on the same basis of market price less actual expense incurred in making sales. The government-owned nitrate will be sold to fill practically all orders up to the time when import restrictions are removed. After the import restrictions are removed the nitrate importers agree to sell on a basis of 1 pound of government nitrate to each 2 pounds of their own. The Government will therefore dispose of its nitrate as rapidly as possible, taking into consideration the market conditions and the industry involved. The nitrate will all be disposed of at market prices.

Loadings Decrease

According to a report from C. H. Markham, Regional Director for the Allegheny Region, transportation conditions in that region for the month of February showed continued improvement. Owing to the mild winter experienced, coal loadings in the region decreased 61,804 cars, compared with February of last year. Tidewater coal dumped amounted to 1,660,730 tons, an increase of 104,494 tons compared with February, 1918.

ACTIVITIES OF ALASKA CHAPTER AMERICAN MINING CONGRESS

At a regular meeting of this Chapter held on November 15, 1918, a committee was appointed to study ways and means of increasing prospecting in Alaska, and, if possible to devise an equitable plan that could be placed before the Congress of the United States in an effort to secure federal aid for this much needed work.

The report of this committee was received and approved at the meeting of the Chapter held on December 13, 1918, and the committee was asked to prepare the draft of a bill embodying the recommendations in their report. This the committee has done and the resulting bill was presented at the meeting of the Chapter held on January 17, 1919.

By this time the question has aroused widespread public interest in this district and the attendance at the meeting was so great that an adjournment to a larger hall was necessary. The draft of the bill was discussed in detail and at length, and a few minor changes were made, after which it was adopted by the Chapter and, since it is a matter involving national legislation, was ordered forwarded, in accordance with the by-laws, to the American Mining Congress, with the request that the National Organization use every legitimate means to secure favorable action upon it by the Congress of the United States. Copies are also being sent to the Honorable the Secretary of the Interior, to the Director of the Bureau of Mines, and to Alaska's Delegate in Congress.

The drafting of a plan to promote prospecting that will not leave loopholes for indolence or even fraud on the part of dishonest beneficiaries has been no easy matter, but the committee believes that by providing for the strict supervision under rules and regulations to be made by the Secretary of the Interior of a mining engineer and his assistants, that this difficulty has been overcome. And it is the general consensus of opinion here (and the entire plan has been published in full in both newspapers in order to secure that opinion) that the present bill meets the objections and offers at the same time great possibilities of assistance to legitimate prospecting which cannot fail to be extremely beneficial to the mining industry of this vast empire. The plan has received the hearty endorsement of the Fairbanks Commercial Club, the Fairbanks Bar Association, the Nenana Commercial Club, and will without any doubt as soon as time permits receive the endorsement and support of similar organizations throughout Alaska, because of prospecting in a territory so largely dependent upon the mining industry is fully realized.

It is worthy of note that the bill provides

for the repayment into the Treasury of the United States of the full amount appropriated by Congress to create the fund, so that any money so set aside may be considered in the nature of a loan to Alaska's mining industry.

In submitting this plan for the action of the American Congress, the Executive Committee of this Chapter, as well as the members of the Chapter itself, are united in their support of it, and formally and earnestly reuest that every effort be made to have it become a law, and pledge themselves to render all possible assistance within their power to the furtherance of that end.

Very respectfully,

JOHN A. DAVIS,

JOHN GROSS,

GEORGE A. McQUARLEY,

The Executive Committee, Alaska Chapter

American Mining Congress.

Tungsten Situation Unsatisfactory

H. C. Morris, in charge of tungsten for the Bureau of Mines, says:

"The information obtained from various sources regarding tungsten and tungsten products during the month indicates very clearly the extremely unsettled conditions of the industry in every branch. Estimates as to stocks of concentrates on hand in the East varied from 2,500 to about 7,000 tons, and showed the desirability of some such assistance as the trade will receive from the compilation of reports or questionnaires.

"A moderate amount of concentrates of very good grade have been disposed of during the past month at considerably under \$10 per unit, and it is reported that England is offering first-grade material for 30 shillings. It is also said that a standard grade of English high-speed steel is being offered in New York at about \$1.70 per pound, and that some such steel may come on the market at a very much lower price.

"The tungsten situation in this country is, of course, strongly reflected in that of South America and the Orient, where many brokers and dealers are facing bankruptcy; the producers in this country are, to say the least, in an extremely embarrassing financial condition.

Offices Moved

Morse Chain Co., Ithaca, N. Y., announces that they are advised by P. A. Morse, of the Morse Engineering Co., their western representatives, St. Louis, Mo., that the Kansas City offices have been removed from the old quarters in the R. A. Long Building to more commodious rooms, Suite 211-212, Finance Building, where W. V. Warner, the office district manager, will greet their friends.

Zinc-reduction capacity of the world,(As of January, 1919, in short tons of primary spelter production,)

Country	Reduction capacity in short tons.			Notes
	Present	Percentage of world total	Under construction	
Belgium	221,000	13.6		Plant of Vielle Montagne at Baelen destroyed. Condition and ore supply doubtful of plants on the Meuse.
Upper Silesia	187,000	11.5		Region of contention between Germans, Poles and Czecho-Slovaks.
Germany (except Silesia)	125,000	7.7		
France	78,000	4.6	32,000	22,000-ton capacity probably destroyed by Germans. New electrolytic plants in Pyrenees.
Great Britain	85,000	5.2	27,000 +	Avonmouth plant. Operating.
Holland	27,000	1.6		Condition unknown.
Austria	24,000	1.5		Condition unknown.
Sweden	18,000	1.1		Condition unknown.
Poland	11,000	.7		Condition unknown.
Norway	11,000	.7		
Italy	?	?		Electrolytic plant proposed at Vallauria.
Spain	13,000	.8		
Total	800,000	49.2		
Europe	800,000	49.2		
U.S.A.	733,000	45.1		
Canada	15,000	.9		
Mexico	5,000	.3		
Australia	8,000	.5	27,000	Increase of capacity at Lisbon electrolytic works Tasmania.
India			10,000	
Japan	60,000	3.7	40,000	This proposed increase is probably abandoned.
Siberia	5,000	.3		Not in operation in 1918.
World	1,626,000	100.0		

LEGISLATION—NATIONAL AND STATE

The closing days of the Sixty-fifth Congress are memorable. A staggering array of bills, important and unimportant, died with the session, and await the action of the special session, which undoubtedly will be called within the next six weeks. Among some of the important measures which failed of passage, which affect the mining industry, are the Leasing Bill, the bill for the protection of American potash, and the bill to regulate promotions. Despite the fact that President Wilson approved practically one-fourth of the laws enacted in the three sessions during the last nine days of Congress, the compendium shows that in seven appropriation bills alone, there are 100 so-called "riders" which will need to be disposed of at the special session. Between February 24 and March 4 President Wilson signed 116 bills.

The Sixty-fifth Congress appropriated \$57,000,000,000. It passed 349 public laws, 48 public resolutions, 48 private laws. It conducted 32 congressional investigations. There were 22,594 bills and resolutions introduced, 16,684 of which originated in the House.

Many of the State Legislatures have been and now are in session. Legislation important to the mining industry has come up in the various legislatures, and in the resume which follows will be found a report from some of the State Legislatures.

National

H. R. 12863—To provide revenue, and for other purposes was the most important piece of legislation to come before the National Congress. As originally proposed it would have worked a great hardship upon the mining industry of the country. As finally passed, it carried seven out of the eight recommendations made by The American Mining Congress in behalf of mining. The administration of this law is vitally important, and the Mining Congress has taken active steps to see that the wasting industries are intelligently taken care of in its application. A committee has been formed to suggest to Commissioner Roper the names of mining engineers who may be secured by the Department to carry on the work so ably begun by Mr. R. C. Allen.

H. R. 13274—To provide relief where formal contracts have not been made in the manner required by law. To this bill was attached the Henderson amendment, which provided for the reimbursement of all net losses incurred by mining men in the production of war minerals. The bill as passed appropriates \$8,500,000 for this purpose, and the administration is left to the Interior Department. This department has appointed a committee to investigate claims, of which committee former United States Senator John F. Shafroth of Colorado is chairman.

Philip N. Moore, former president, American Institute of Mining Engineers, and former United States Congressman Martin D. Foster of Illinois are appointed as members of the committee. A full report of the activities of this committee is found elsewhere in this journal.

H. R. 11259—An act to provide further for the national security and defense by encouraging the production, conserving the supply and controlling the distribution of those ores, metals, and minerals which have formerly been largely imported, or of which there is or may be an inadequate supply. This bill was purely a war measure, in order to allow the President of the United States to secure for war purposes those ores and metals of which there was a scarcity. It was turned over to the Interior Department for administration, and before it could be put into actual working force the armistice was declared, and the value of the legislation ceased.

H. R. 15447—Introduced by Mr. Taylor of Colorado requiring publicity in prospectuses, advertisements, and offers for sale of securities. The bill designates as a "promoter" any person who organizes or participates in the organization of any firm, corporation, association, syndicate, trust or other business concern for the purpose of obtaining compensation for his services in such organization. It designates as "advertisements" any prospectus, or printed matter, letter or statement offering for sale securities of any kind, and provides that any such promoter, person, corporation, or anyone who communicated through the mails with three or more persons during a period of thirty days, or inserted in any newspaper, magazine, or periodical which circulated in any foreign country, or any state, district, or territory, any advertisement which offers securities or stock for sale, would be obliged to conform to federal censorship rules. First, every item of the proposed business organization must be published in full for the public, such as rates of commission and every expense incurred or to be incurred. Announcement must be made that financial statements and other important information concerning the issuer of the securities were to be filed with the Secretary of the Treasury, or with any person or board which the Secretary might designate. No communications or offers for sale of stock through advertisements or letters could go through the United States mails in any form without there had previously been filed a balance sheet showing the true financial condition no more than six months preceding the mailing of such advertisement, the value of the issuer's personal property as shown by actual inventory, a statement of income and expense of issuer for three years

preceding the statement so made, or, if the person or persons who had such securities for sale had not been in business three years, then for each year in which they had been in business. This bill was referred to the Committee on Judiciary, where it died with the closing of the session.

H. J. Res. 372—Providing that the provisions of Senate joint resolution, approved October 5, 1917, be amended so as to provide that the time for filing notices to hold mining claims in the Territory of Alaska be extended to the first day of April, 1919. The bill was considered under the unanimous consent rule, and passed the House, becoming a law in January, 1919.

H. R. 11516—Introduced by Mr. Chandler of Oklahoma. To increase the revenue and to levy a duty upon imports from foreign countries of lead and zinc ore and manufactured products containing lead and zinc. The bill provides that silver ore and all other ore containing lead shall pay a duty of 2 cents per pound on the lead contained therein, according to sample and assay at port of entry. A duty of 2½ cents per pound upon lead in pigs and bars, molten and old refuse lead run into blocks and bars, and old scrap lead fit only to be remanufactured. Lead in sheets, pipes, shot, glaziers' lead, and lead wire, 3 cents per pound. Zinc ore or zinc in blocks, or pigs, or zinc old and worn out, 2 cents per pound. Zinc in sheets, 3 cents per pound. Manufacturers' articles, or wares composed wholly or in part of lead or zinc, whether partly or wholly manufactured, 50 per cent ad valorem. That on all products of lead and zinc, or either of them, or products containing lead and zinc, or either of them, there shall be levied, collected and paid, in addition to the tax now imposed by law, 30 per cent ad valorem. The bill was referred to the Committee on Ways and Means, and died with the session.

H. R. 15402—Introduced by Mr. Bankhead. Providing for the education of native illiterates, of persons unable to understand and use the English language, and of other resident persons of foreign birth; to provide for cooperation with the states in the education of such persons in the English language, the fundamental principles of government and citizenship, the elements of knowledge pertaining to self-support and home-making, and in such other work as will assist in preparing such illiterates and foreign-born persons for successful living and intelligent American citizenship. The bill appropriates \$5,000,000 for the first year and after six years, the sum of \$12,500,000. Any state may secure the benefits of this act by acceptance of its provisions and by the designation of an appropriate official to act as custodian of moneys allotted, and by authorizing the Department of Education or chief school officer to cooperate with

the United States in the educational work authorized, providing also that the state appropriate an equal amount allotted by the Government. The money appropriated is to be used for the purpose of salaries for teachers, supervisors, or directors of education, or for the preparation and training of such teachers. In order to secure the benefits of the act, each state shall submit to the Secretary of the Interior for his approval, plans showing the manner in which it is proposed that the appropriation shall be used, including kind of instruction and equipment to be provided, courses of study, methods of instruction, qualifications of teachers, supervisors, and directors, and the kind of schools in which the training is to be given. The bill was referred to the Committee on Education, and was reported in the Senate February 27, 1919, by Senator Smith of Georgia. It died with the session.

S. 2812—Consolidation of the Pittman-Walsh and Ferris bills authorizing the leasing of oil and coal lands, etc. There has been much disagreement over the provisions of this bill, and after years of effort a final agreement was reached by the House and Senate and government departments, February, 1919. The bill was "talked to death" in the last days of the session. The following covers the important portions of the bill:

Sec. 2. *Coal*.—This provides that citizens, associations, corporations or municipalities may enter land not otherwise appropriated, not exceeding 2,560 acres, on payment of not less than \$10 per acre when land is situated more than fifteen miles from any completed railroad, and not less than \$20 for lands within the fifteen-mile limit. Improvements or development work of not less than \$8 per acre should be made within two years or patent will not issue. Ownership of lands and coal shall not be interlocking. Ownership by trusts or combinations and conspiracy in restraint of trade are prohibited. Coal land may be subdivided in the lease of tracts of forty acres each or multiples thereof, and the Secretary of the Interior shall fix in advance the royalty to be paid on production. Railroads may acquire leases or permits only for the amount necessary for their own use. Leases may be modified or changed to include contiguous subdivisions for consolidation. When a showing is made that coal is about to be exhausted additional leases may be granted under original conditions. Royalties shall not be less than two cents per ton. Annual acre rental not less than 25 cents for the first year, 50 cents for the second, third, fourth and fifth years, and \$1.00 for each year thereafter. Leases shall be for indeterminate periods. Provision is made for readjustment of terms at the close of each twenty year period. Licenses for coal production for private use may be issued to individuals, associations and municipalities without payment of royalty.

Sec. 9. *Phosphates*.—Provides for the leasing or selling of any lands containing phosphate deposits, no total acreage to exceed 2,560. The royalty shall be not less than two per cent of gross value of output, with the same annual acreage rental as applies to coal. Leases for indeterminate periods, with provision for minimum annual production and twenty-year readjustment.

Sec. 13. *Oil and Gas*.—The Secretary of the Interior may grant prospecting permits which shall give exclusive right for a period not exceeding two years to prospect for oil or gas upon not to exceed 640 acres where such lands are located within ten miles of any producing oil, or gas well, and not to exceed 2,560 acres where land is situated more than ten miles from producing wells and not within a known geological oil or gas structure. Drilling must begin within six months and one or more wells must be down not less than 500 feet each within a period of one year and within two years the depth must not be less than 2,000 feet unless deposits are discovered. Permits may be extended if a proper showing is made. In Alaska, prospecting permits not more than five in number may be granted to any classified applicant for a period not exceeding four years and drilling must begin in two years. Upon establishing discovery, the Secretary of the Interior shall issue a patent to one-fourth of the land embraced in the prospecting permit under the regulations governing the survey of placer mining claims, and permittee shall have preferential right to lease remaining unpatented lands within the limits of his permit at a royalty of not less than one-eighth. Until application is made for patent a royalty of 22 per cent of gross value of all oil or gas secured from the lands embraced in the permit shall be paid to the Government. No well shall be drilled within 200 feet of the outer boundaries of the lands located unless adjoining lands are patented or vested in private ownership. All unappropriated deposits of oil or gas within known geologic structure, except those embraced in any prospecting permit, may be leased through competitive bidding in areas not exceeding 1,280 acres, conditioned upon payment of royalty interest in the lease which shall not be less than one-eighth of the value of the production. Such leases shall be for twenty years, with provisional right for renewal. When there exists a question of validity of claim, under preexisting law, to land embraced in the executive order issued September, 1909, the President is authorized to direct a compromise and settlement by an exchange or division of land or proceeds of operation on relinquishment within six months after the approval of this act, of all rights, titles, etc., possessed prior to July 3, 1910, to any land embraced under above stated Executive Order (and not within a naval reserve) and upon payment to the Government of one-eighth of all oil or gas produced the claimant shall be entitled to a lease thereof for a period

of twenty years at a royalty of not less than one-eighth of the proceeds; provided, that on all claims within naval reserves only producing wells may be leased, together with a sufficient area of land for operation. Fraudulent claimants shall not be entitled to any land. Special provisions are made as to Alaska claimants.

Sec. 21. *Oil Shale*.—The original oil shale provision stands, whereby 5,128 acres may be entered by any person or corporation qualified, leases to be for indeterminate periods and royalties to be fixed by the Secretary of the Interior. Annual rental at the rate of 50 cents per acre per annum for all lands included in the lease, the first year's rental to be credited against royalties accruing for that year, royalties to be subject to adjustment at the end of each twenty-year period. The Secretary of the Interior may in his discretion waive payment of royalty during the first five years of any lease. It is provided that persons having valid location to oil shale under existing lease January 1, 1918, shall, upon relinquishment, be entitled to lease under this section provided no such claimant has been guilty of fraud in the location. Not more than one lease shall be granted to any one person or corporation.

Sec. 22. *Sodium*.—Prospecting permits shall be issued for exclusive rights to prospect for chlorides, sulphates, carbonates, borates, silicates or nitrates of sodium for a period not exceeding two years on a tract of not exceeding 2,560 acres in compact form. San Bernardino County, Calif., is excepted. Upon proper showing, patent shall issue for one-fourth of the land embraced in the prospecting limit, and remaining land in the prospecting permit, together with all other lands known to contain such deposits, not covered by leases or permits, shall be held subject to lease or sale in blocks of not exceeding 2,560 acres, all leases subject to advance payment of 50 cents per acre for the first year and \$1 per year thereafter. Leases shall be for indeterminate periods and royalties shall be fixed by the Secretary of the Interior.

General Provisions.—Prospecting permits may be canceled if permittee fails to exercise due diligence in the prosecution of his prospecting work. Only one coal or phosphate lease can be held by one party, association or corporation, and not more than three oil or gas leases can be granted in any one state. Corporations shall not hold interests as stockholders in other corporations or in more than three oil or gas leases. Interlocking interests are practically a violation of the provisions of the law. Provision is made that any number of lessees may combine their several interests so far as may be necessary for the purpose of establishing and constructing pipelines or railroads for the transportation of their product. The Secretary of the Interior reserves the right to determine the nature of joint use of rights of way, tunnels, etc., and the treatment and shipment of products trans-

ported through such joint provisions. Leases may not be assigned or sublet without the consent of the Secretary of the Interior. Authority is given to the Secretary of the Interior to prescribe certain rules such as restriction of the workday to eight hours for underground workers, requirement for the payment of wages twice a month in lawful money, and other provisions for the protection of miners. Nothing in the act shall be construed as to affect the rights of states to exercise any rights as fixed by state laws. Moneys received from royalties and rentals become a part of the reclamation fund created under the Reclamation Act. Section 20 of the joint bill becomes Section 35 and provides that all mineral deposits referred to shall be subject to disposition only as to valid claims existent at the date of the passage of the act and thereafter maintained in compliance with the laws and which may be perfected under the laws. Any person who at the time of any withdrawal order or on January 1, 1918, was a bona fide occupant or claimant of oil and gas lands not withdrawn from entry, and who had performed all acts necessary under existing law for validation or discovery, and who had expended on such locations at least \$250 for each location, shall, if application is made within three months from the passage of the act, be entitled to prospecting permits thereon on the same terms and conditions or other permits so provided, or, if discoveries have been made, he shall be entitled to a lease, provided that such lands are not reserved for the use of the navy and applicant has not been guilty of fraud. Those holding claims on lands afterward withdrawn have preferential rights.

S. Res. 82—Resolving that the Committee on Education and Labor be instructed to investigate and recommend to the Senate methods of promoting better social and industrial conditions in the country, particularly as to, first, the establishment of a natural tribunal to review and adjust difficulties between employers and workmen and to improve industrial conditions in the various industries and trades; second, the development of the United States Employment Service into a national labor exchange; third, the regularization of employment; fourth, the prevention of unemployment among workers, both men and women, by a program of necessary public works to be undertaken during periods of industrial depression. The bill also provides for investigation into the feasibility of a national minimum wage law. With the rush of the last days of Congress the bill failed of passage.

S. 3220—Introduced by Mr. Gronna. Authorizing the Secretary of the Interior to make investigations, through the Bureau of Mines, of lignite coals, to determine the practicability of their utilization as a fuel and in producing commercial products. The bill ap-

propriates the sum of \$100,000 to conduct such experiments and investigations. The bill passed the Senate July 6, 1918, and the House January 7, 1919. The Bureau of Mines has already undertaken the investigations authorized, and engineers are now in the field to determine upon the location of experimental stations for this purpose. A report will be made to the Secretary of the Interior upon the return of the engineers.

S. 5557—Introduced by Senator Henderson. To safeguard temporarily, by a license control of imports of potash, the interests of domestic potash producers until trade conditions are readjusted. The bill purports to safeguard the permanent supply of potash, and encourage domestic production, manufacture, and recovery of potash, and authorizes the Secretary of the Interior to issue licenses from time to time to persons, firms, or corporations for the importation of potash, and provides that after thirty days from the approval of the act, no potash shall be imported into the United States without such license. Each license shall state the amount of potash which the licensee shall be permitted to import and shall be issued only on condition that the applicant has purchased or contracted, under guaranty satisfactory to the Secretary of the Interior, to purchase an amount of potash produced in the United States, bearing the same ratio to the amount which he is permitted to import, as the estimated total production of potash in the United States bears to the difference between this estimated total production and the estimated total requirements of the United States. The bill appropriates \$150,000 to carry on the necessary investigations. The bill ceases to be effective two years after the proclamation of peace. This bill, like many others, was caught in the legislative jam at the close of the session.

S. J. Res. 198—Introduced by Mr. Jones. To suspend the doing of assessment work on mining claims in Alaska for the years 1917, 1918, 1919 and 1920, and provides that no forfeiture or relocation of any mining claim or mining location shall be permitted or adjudged for failure to do have done assessment work thereon for either of said years. The bill was passed by the Senate January 20, 1919, and by the House February 17, 1919.

S. 385—By Mr. Ashurst. Authorizing mining for metalliferous minerals on Indian Reservations. The leases granted under this act are for period for thirty years, with right to renew for periods of ten years upon such reasonable terms and conditions as may be prescribed by the Secretary of the Interior. It also grants to lessee the right to use, during the life of the lease, a tract of unoccupied land, not exceeding eighty acres for camp sites, milling, etc. It provides for the payment of a royalty of not less than 5 per cent of the net value of the output of the minerals

at the mine, and an annual rental of 25 cents per acre for the first year, 50 cents for the second, third, fourth and fifth years, and \$1 for each succeeding year. In addition to the payment of the royalties and rentals provided, the lessee must expend not less than \$100 in development work for each mining claim located, or leased. This bill was passed by the Senate, and favorably reported by the House. It was finally included in the Indian Appropriation bill, which failed of passage.

Colorado.—Many important bills which are of interest to the state mining industry have been introduced during the session, which probably will not close before the middle of April. The legislature has not acted upon any measure presented, but the mining men of the state are hopeful of securing satisfactory legislation for their industry. A resume of the bills presented and action taken thereon will be printed in the next issue of THE MINING CONGRESS JOURNAL.

Utah.—Utah has enacted a "Blue Sky" law to become operative in May of this year. The bill, which was introduced by Representative J. E. Cardon, of Cache County, was amended in the Senate so as to include several features of a measure introduced by Senator George H. Dern, of Salt Lake. As finally passed, the measure includes certain features taken from the Michigan, Arizona and California statutes, including the "Pardee Law" of California, which is embodied in its entirety in the Utah law.

The new Utah law provides for a State Securities Commission, consisting of the Secretary of State, Attorney General and Bank Commissioner. The Secretary of State becomes Securities Commissioner and the commission is empowered to employ a secretary.

All companies, dealers and agents are required to file statements and obtain licenses from the state. The maximum filing fee for corporations is \$25 annually. The fee for dealers or brokers is \$10 and the statutory fees are required for copies of statements or other documents on file. Securities are required to be marked so as to show that they are issued under license of the state, the marking to recite that the issuance is permissive and not to indicate that the state endorses or recommends purchase. Exemptions follow almost exactly the language of the Michigan law. The Utah law prohibits publication in the state of the advertisement of an unlicensed company, a provision inserted to cover cases where foreign concerns without Utah agents place advertisements locally.

Violation of the act is punishable by fine of \$1,000 to \$5,000 or by imprisonment in the state penitentiary for not more than five years.

The Committee on Mining Investments of the American Mining Congress conferred frequently with the legislative committees considering the subject and was instrumental in obtaining several desirable changes from the original form of the bill.

The Workmen's Compensation Law, first enacted two years ago, was amended in important particulars. A proposal to establish monopolistic state insurance was defeated. The waiting period was reduced from ten days to three days. Benefits were increased from 55 per cent to 60 per cent of the average weekly wage and from \$12 to \$16 weekly maximum. A new provision makes mine lessees employes of the mine for the purposes of the act, but permits the mine owner to deduct the amount of the insurance premium from royalties paid under the lease. The provisions permitting mutual medical attention systems were retained in the law, although a strong effort was made to eliminate them.

A new mine tax law, resulting from the constitutional amendment adopted last fall, was passed at this session. It provides that mines shall be taxed as previously on their surface ground and improvements and in addition on three times their net annual proceeds. The law contains a much better definition of net proceeds and allows, in addition to expenses heretofore deductible, the amounts expended for clerical and office work, state taxes, workmen's compensation insurance and salaries of officers except corporate officers. As a result of an agreement between mine operators and Governor Bamberger and other officers of the state, mining companies which had begun proceedings in the Federal Court attacking the constitutionality of the "occupation tax" passed two years ago, paid into the state treasury the amount of the "occupation tax" for last year. The understanding contemplated legislation containing the definition of net proceeds above alluded to, and providing for "not to exceed three times the net proceeds." The bill as passed embodied the agreement, except the phrase "not to exceed." The State Senate adopted the phrase but the House did not, and it was finally eliminated in conference. Following the passage of the bill, the committee of mine operators, headed by Walter Fitch, of Eureka, formally released Governor Bamberger from his obligation under the agreement without, however, endorsing the bill as passed. Governor Bamberger strongly favored the "not to exceed" provision, but the opposition in the House, led by men suspected of endeavors to advance their political fortunes by "soaking the mines," prevailed. The "not to exceed" phrase is fully justified by the fact that, although other property in the state is supposed to be assessed at full value, it is not and never has been thus assessed.

The new tax bill carries a section repealing the "occupation tax."

Other bills of interest to the mining industry passed at the late session include a semi-monthly pay-day law and a law prohibiting the collection of fees for obtaining employment. A "one day rest in seven" bill and a basic eight-hour bill were defeated. The state already has a law fixing eight hours as a day's work underground.

Oklahoma.—The most important bill which affects the mining industry of this state, which came up for consideration of the Oklahoma State Legislature, is that which proposed taxation of the gross production of asphalt ores, bearing lead, zinc, jack, gold, silver of material oil and of natural gas in lieu of any other method of taxing same, and of certain property used in the production thereof; and amending section 1 of sub-division "a," article 2, chapter 107 Session Laws of Oklahoma, 1915, to provide a direct and indirect system of taxation. Due to the very splendid work of the Oklahoma Employers' Association, and the activities of the mining men of the state, this bill failed of passage.

Idaho.—The Idaho State Legislature passed, at its recent session, a bill which appropriates \$100,000 to establish an Idaho State Geological Department, and provides for cooperation with the United States Bureau of Mines in the establishment of an experimental station at the Idaho State University at Moscow. The mining men of the state are very much pleased with the attitude of their legislature toward the mining industry. No legislation detrimental to mining was introduced during the session.

New Mexico.—House Bill No. 19 refers to working hours and provides that eight hours' labor performed by any person within nine consecutive hours in any calendar day shall constitute a day's work for every class of employment for hire within this state, except any employment that may pertain to farm, stock raising or domestic service unless otherwise provided by law. The bill provides for the extension of the hours of labor during the exigencies of an emergency where life or property are in imminent danger, provided that in such a case extra compensation shall be allowed of one and one-half times the rate of pay allowed for the same time during the eight hours' service. A fine of not less than \$100, nor more than \$300 or imprisonment for a period of not less than thirty nor more than ninety days, is imposed for violation of the law.

House Bill No. 368 provides for a commission to investigate and report to the next session of the State Legislature an equitable method for taxing mines and mineral lands, and provides that each member of the commission be paid \$10 per day and actual and necessary traveling expenses which engaged in the performance of their duties. It also appropriates \$3,000 to pay the per diem and expense of the commission.

House Bill No. 162 provides that the average net value in dollars of the output of each producing mine in the state for the years 1916, 1917 and 1918 shall be taken and considered by the State Tax Commission as a basis of valuation for the purposes of taxation of the net value in dollars of each producing

mine for the years 1919 and 1920. It provides that whenever the average net value in dollars of production of any mine for the years mentioned shall be less than \$50,000, then such production shall be taxed on the basis of production for the current year.

DRASTIC CURTAILMENT OF LEAD PRODUCTION HAS BEEN EFFECTED

F. B. Hyder, of the Bureau of Mines, is the author of the following:

The domestic production of lead is probably at the rate of 360,000 short tons yearly, which, compared with the 1918 production from domestic ores of 541,500 short tons, shows that a drastic curtailment in production has been effected. The St. Joseph Lead Company has shut down its smelter and will ship its ore production to other plants. This company is one of the largest factors in the domestic industry, having produced 95,000 short tons of lead in 1917 and 80,000 short tons in 1918. The other Missouri producers, including the Desloge and National Lead Companies, have cut production probably to 50 or 60 per cent of last year's rate. In Idaho the Hercules and Tamarack and Custer mines have closed, as has the Northport smelter.

These properties produce about 120,000 tons of lead concentrates yearly. The Bunker Hill and Sullivan has cut production to 75 per cent of last year's rate. Utah Apex has laid off 300 men.

Catalog No. 210, issued by The Jeffrey Mfg. Co., carries a description of their latest type of pivoted bucket conveyer for the handling of coal, ashes, clinkers, etc.

The Jeffrey improved carrier was conceived about three years ago out of nearly twenty years of experience in the installation of successful pivoted bucket equipments, and was designed to embody from every angle the complete sense of the words, reliability and long service; reliability in its action at all times, whether the installation outline be intricate, the surrounding conditions crude, or the attendant labor not of a high class; coupled with a maximum of material strength and hardness of wearing surfaces, which means for long service. The carrier is proving its worth in a most reliable and durable service in a large number of plants.

The new catalog is divided equally in its ninety-six pages between convincing and keenly illustrated details of the carrier, many interesting exterior and interior pages of large power-plant equipments and also reproductions of dimensioned blueprints in actual color of typical views for the various sizes of carrier equipment, which will be of especial interest to the architect and engineer as it enables them to incorporate the Jeffrey carrier into their building plans before placing their order for the equipment. They are now ready to distribute the catalog to the trade.

CONTINUED COOPERATION BETWEEN INDUSTRY AND GOVERNMENT URGED

A plan to promote public welfare by more effective cooperation between the Government of the United States and the coal industry has been submitted in referendum form to the members of the National Coal Association by officials of that organization, it was announced March 24 by the United States Fuel Administration.

Producing companies holding membership in the National Coal Association represent an annual output of approximately 400,000,000 tons, or three-fourths of the country's bituminous production.

The plan is the outcome of conferences called by the United States Fuel Administrator, Harry A. Garfield, in which coal operators and mine workers participated.

Pursuant to arrangements at one of these conferences, held February 11-14, the matter was laid before the President prior to his recent departure for France.

Operators in all producing fields have been requested to study the proposals, to hold meetings in the near future to discuss them, and advise the representatives in the association's directorate of their attitude and wishes. The consensus of the association's opinion will thus be available within the next two weeks, and will be presented at a meeting of its directors at Cleveland Ohio, April 4, at which time further consideration will be given to the plan.

The plan takes full cognizance, it was announced, of the interest of the public in all matters pertaining to the coal industry, especially the price it has to pay for coal. It is, therefore, proposed that the public be represented fully and adequately in placing in effect any plan looking toward the betterment of conditions, and to this end the proposed plan provides for such representation on the part of the public by the United States Government, to continue during the period of readjustment and thereafter, when business shall have returned to a normal, peace-time basis.

In brief the plan proposes:

1. That all facts relating to the industry or any question touching it, such as the cost of living, the cost of production, labor conditions, transportation facilities and other factors entering into the cost of coal be officially and accurately ascertained by some of the regular government agencies, since the Government is the most appropriate representative of the public.

2. That the public is one of the parties at interest, the other two being capital and labor, and that no action affecting any of the findings of fact be taken until all three parties, through their duly qualified representatives, shall have had an

opportunity to consider and discuss the proposals.

3. That the determination of facts, as outlined, and the formulation of administrative policy are two separate and distinct functions and therefore should not be performed by the same agency of the Government.

4. That the findings of facts, thus proposed, should be submitted to a permanent department or commission of the Government. In this connection it is pointed out that the plan does not contemplate the creation of new agencies, but proposes to utilize existing permanent governmental organizations.

That the President designate some Cabinet officer, or other appropriate official, to represent the public in considering any policy proposed, and that as advisers to the commissioner there should be an equal number, say three, of representatives of operators and miners. The function of the commission would be the consideration of all problems affecting the industry, and the formulation of policies to deal with such problems, the commission being a purely advisory body.

6. That the commission shall make recommendations to the President, who would thus be placed in close relation with the industry and all factors entering into it, making for its prosperity or retarding its development.

Such a plan, modified to suit diverse conditions, it is conceivable, might be adopted not only by the coal industry, but by other basic industries of the country as well, in which event the Government would be placed in possession of intimate facts, figures and findings, and recommendations in meeting industrial problems relating to any industry as such problems might arise. It does not conflict with the work now being carried forward by the Industrial Board of the Department of Commerce.

Manganese and Chrome in California

California has long been known to contain deposits of commercial ores of both chromium and manganese, but only a limited production was made for many years, owing to the high cost of placing these materials on the principal markets in the eastern states.

During the period of the world war the prices and requirement for these ores were raised greatly, on account of the curtailing of imports from the principal foreign sources and because of the increased demand for steel products. So far as possible all known occurrences of these ores in California were visited and examined by members of the field staff of the State Mining Bureau, and the results of these examinations are embodied in a new bulletin.

Lead and Zinc Movement

Imports by countries and exports (totals only) of lead and zinc during January, 1919, as compiled by the Department of Commerce, are as follows:

IMPORTS

Articles and Countries.	Contents. Pounds.
Lead Ore:	
Canada	113,618
Mexico	639,817
Total.....	753,435
Lead Bullion and Base Bullion:	
Mexico	9,678,891
Zinc Ore and Calcamine:	
Canada	894,752
Mexico	1,034,319
Total.....	1,929,071

FOREIGN EXPORTS

Lead Pigs and Bars.....	5,666,988
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DOMESTIC EXPORTS (TOTALS)

Lead Pigs—Domestic Ore.....	4,658,421
Lead Pigs—Foreign Ore.....	12,875,887
Zinc Spelter—Domestic Ore.....	10,680,934
Zinc in Sheets.....	3,408,051

PERSONALS

Roy N. Bishop, after spending several days in Washington and New York, has returned to California.

George L. Nye, Denver, Colo., is in the East.

James L. Bruce, manager of the Butte and Superior Mining Company, was in Washington on business during the month.

Jerome J. Day, recently elected president of the Idaho Mining Men's Association, Wallace, Idaho, is spending a few weeks in the East.

D. W. Brunton was a caller at the offices of the Mining Congress, en route to New York. He has been spending several weeks in southern Florida, and after a brief visit to New York will return to his home at Denver, Colo.

Walter Renton Ingalls announces that he has retired from the editorship of the *Engineering and Mining Journal* which he has held for nearly fourteen years, and while continuing as consulting editor he has resumed practice as consulting engineer with office in No. 115 Broadway, New York.

Courtenay DeKalb, associate editor, *Mining and Scientific Press*, San Francisco, spent a few days in Washington, en route to Spain, where he has been appointed by the Department of Commerce to investigate mining and metallurgical resources of that country.

J. H. Holmes, Jr., of Boulder, Colo., was in Washington during the month.

A. H. Jarman, of San Francisco, who spent several weeks in Washington, in interest of the war mineral producers, has returned to his home.

The Automatic Reclosing Circuit Breaker Company has issued Bulletin 301, which is very instructive and complete in its explanation of the workings of the circuit breaker. This bulletin gives a reference list of circuit breakers for D. C. circuits and rules for application.

The Stephens - Adamson Manufacturing Company, of Aurora, Ill., have recently established a new sales office in Cincinnati, Ohio, to give personal engineering attention to this particular territory. Mr. John G. Stewart, who has been associated with the Stephens-Adamson Manufacturing Company for fifteen years, has been appointed the district manager.

R. S. Ellison, Governor of the Colorado Chapter of the American Mining Congress, is spending several weeks in the East.

The resignation of William B. Symmes, Jr., Solicitor of the United States Fuel Administration, has been announced. His release was executed by Fuel Administrator Harry A. Garfield at Mr. Symmes' urgent request to be permitted to resume his practice of law in New York, where he is a member of the firm of Davis, Symmes & Schreiber, at 55 Liberty Street.

Fuel Administration affairs were so nearly closed up, that Mr. Garfield decided the resignation of Mr. Symmes could be accepted, effective March 31.

Effective February 15, 1919, A. S. Learoyd has been appointed assistant to the president of the Lehigh Coal and Navigation Company.

Mr. Learoyd comes to the Navigation Company from the United States Fuel Administration, in the work of which during the past year he officiated with marked success as director of distribution.

Prior to Mr. Learoyd's connection with the Fuel Administration he was for many years employed as general freight agent by the Delaware, Lackawanna and Western Railroad Company.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

A DANGEROUS FALLACY

"Fidelity to the public interest, a square deal for labor, with not only an ungrudging but a sincere and cordial recognition of its partnership in the railroad enterprise and fair treatment for the owners of railroad property and for those with whom the railroads have business dealings."

This statement by the United States Railroad Administration of the principles upon which the Railroads of the United States are being administered carries much that will receive hearty public approval but with it a principle pregnant with danger.

A partnership of labor in the railroad enterprise would not for one moment be accepted or approved by labor nor would it be fair that it should be asked to do so.

The partnership relation carries with it the sharing of losses as well as profits. Director Hines announces in a recent report, that the loss in the operation of the railroads during the year 1918 amounts to \$200,000,000. If there is a partnership between the business enterprise and the labor by which it is operated then labor must stand its share of this loss. If it fails to do so it is not a partnership. It is not even profit sharing, which is essentially different from a partnership.

The wage system has been developed by the business experience of the world. It meets various conditions which are essential to the successful operation of business operations. The wage system carries with it a stipulated pay and a fair performance of service. The laborer's responsibility ends when he has

performed the service for which he is to be paid. It is the duty of the employer to pay that stipulated wage whether the service is profitable to him or not.

The wage earner must have his wage at stipulated periods. He should not be called upon to deplete savings in order to pay his living expenses. Frequently and most unfortunately he has no savings and therefore a failure of wage means immediate want.

His living expenses are more or less uniform. Business profits are not uniform. To be a partner in the business by which he is employed means either a feast or a famine for the average wage earner. Neither condition is desirable. That labor shall be a partner means that business must lose the benefits of executive management without which no enterprise can be successful. It means an increase in production costs which will necessarily mean an increased price to the public. The transportation business of the United States furnishes striking proof. A few years ago, with less business than in 1918, the railroads of the country were rendering a service far superior to the service of 1918 at a much less cost to the public.

The claim that this business was not making a satisfactory profit and the appeal then made by the railroads for a 15 per cent increase in freight rates called forth severe public criticism of the railroads, and a long, hard contest was required to secure the consent of the Interstate Commerce Commission that a 5 per cent increase might be collected.

Under the partnership theory of gov-

ernment administration, a 25 per cent increase in freight rates upon an overwhelming business and a 50 per cent increase in passenger rates, the service rendered was and is abominably unsatisfactory and the public is to be called upon to make up a deficit of \$200,000,000 for its transportation service for the year 1918.

Director Hines asks for complaints concerning the service. This editorial is being written at 4 p. m. in a Pullman on a side track at Jacksonville, Florida, taken from the regular train at 11.30 a. m. and still waiting. During these four hours of unnecessary delay none of the necessary conveniences of human comforts are available.

Some delays are unavoidable, and of these no complaint should be made, but even at the old rates when the I. C. C. held down the income of the railroads so that equipment could not be kept in proper repair such delays awakened a public desire to get even with the management represented by the railroad magnate who was accredited with saying "the public be damned." Then we had brutal expressions and pretty good service at a fair cost. Conditions are now reversed. Now we have fine phrases and unsatisfactory service at an exorbitant cost. At Key West the writer, after eight hours of sea sickness on the palatial tugboat service from Havana, was refused a cup of tea upon the dining car except as part of a dollar and a quarter table d'hote dinner.

These are not isolated cases. Such are many times more frequent than under the "public-be-damned" management. We do not criticise Director Hines nor the Railroad Administration. Unsatisfactory service and exorbitant costs are inherent to the system. Partnership between labor and business management will as a rule produce similar results.

Private operation of railroads under sensible and effective government supervision will give the best service at the least cost and supply such transportation facilities as will enable productive enterprise to most effectively and cheaply meet the public needs.

The wage system, with a proper profit-sharing plan and the executive management of business affairs by those who furnish the capital and who must be responsible for results, will in the end be found to serve best the interest of capital and labor and, more important still, the interest of the great consuming public.

A DEPARTMENT OF MINES

"I think the chief of the Bureau of Mines ought to be elevated to a Cabinet position. In these days mining is equal to agriculture in importance. What good reason is there why mining should be a mere bureau under the Interior Department any more than that agriculture should be so represented in the Government?"

This quotation from a letter just received by the American Mining Congress from one of the prominent mining operators of California is one of numbers of such expressions frequently made in letters or conferences every month.

The need of proper recognition by the Government of the most important industrial development of America is becoming more and more apparent to the thinking mining man.

The trying experiences of the war period, the sad muddle of the post-war period, the wasteful duplication of effort and expenditures when the administration assayed to assume control of the coal industry in total disregard of the splendidly equipped bureaus already at work—these and other developments show the importance of direct representation at the conference table of the President.

The day has arrived when both capital and labor realize that a department of mines, with a man of vision and understanding of the mining industry, would do much to stabilize the conditions both in production and distribution. Such a department could and would help to bring about a better understanding between operator and operatives. It would dignify this great industry and allow its problems to go directly before the Chief Executive—a thing not possible under the present plan of handling mining, as a mere cog in an overloaded Department of the Interior.

FOREIGN TRADE AND LABOR

The control of foreign trade sufficient to absorb 10 per cent of the total productive capacity of this country has frequently been pointed out by THE MINING CONGRESS JOURNAL as being absolutely necessary to keep our productive machinery in operation and to provide continuous employment for the workmen of this country.

Less than a demand for the full productive capacity of the nation means a competition between laboring men for each other's jobs, which cannot be beneficial to them nor the country.

Some leaders of organized labor have advocated a decrease in hours or efficiency in order to equalize this economic situation. It seems entirely plain to THE MINING CONGRESS JOURNAL that this course would only aggravate the situation. There can be no doubt of the baneful effect of such a course upon the country as a whole. The United States is now in position to exercise financial leadership of the world. Foreign nations are now indebted to this country in an amount greater than all the gold held by all other nations outside of the United States. To maintain this supremacy we must sell to foreign nations as much as we buy from them. To do this we must produce and transport to their markets as good goods for less money or better goods for the same money; and we must do this without lowering the standards of living of the American workman.

This means that the American workman, after permitting a fair profit for the use and risk of capital, must, with the machinery and executive management furnished by capital, make goods as cheaply, item by item, as can be done elsewhere. If he fails to do this, his wages are too high; if he can do more than this, his wages are too low.

Capital must be content with an average net earning capacity of 6 per cent. It will be accumulated rapidly enough with that much of profit, which will amount in this country to approximately \$15,000,000,000 dollars annually or 30 per cent of the \$50,000,000,000 earned each year in the United States.

Unfortunately labor's thirty-five billion of annual earnings is largely lived up or squandered. Six per cent of this also should be and easily might be accumulated. One-half of the annual cost of tobacco and the movies would amount to a sum far in excess of 6 per cent of labor's annual wage. Such a saving in money would in a few short years give to the wage-earners, collectively, absolute control of the money of the nation.

The fundamental necessity is to provide continuous and fair wages to all desiring employment, and this requires a foreign market for our surplus production.

 THE FEDERATION OF
BRITISH MANUFACTURERS

The British manufacturers who in times past gained for Great Britain a supremacy in the world's markets are again alert to the situation.

The following press dispatch from London shows clearly their appreciation of the necessity of the development of foreign trade:

"The federation of British industries, representing 16,000 manufacturers and £5,000,000,000 capital, is organizing a great system of trade ambassadors as pioneers for the extension of British trade overseas. By July the federation expects to have an ambassador in every important center. It is already represented in Spain, Denmark, South America and the Near East."

What would be said in this country of a combination with a capital of \$25,000,000,000? What has been said of combinations controlling less than one billion, but, with this, being able to push their products into every market in the world? Such have been prosecuted in this country notwithstanding the wonderful advantages which their enterprise has brought to the industrial life of the nation. And how would the British Empire have developed its world trade under the restrictions of a Sherman Anti-Trust Law? It will be said that the Webb Law makes possible business combinations in this country which can compete on fair terms. The Webb Law was

a move in the right direction, but will be found entirely inadequate.

A large part of the output of any great industry must be absorbed in local markets. Foreign trade must take the surplus. Other nations have dumped their surplus goods upon our markets at a loss in order to prevent demoralization of their domestic markets.

American industry must be allowed similar opportunity. It must have a profitable home market and the power to protect that home market. That power, however, must be under such governmental supervision as will prevent its abuse to the detriment of the consumer.

Revision of anti-trust laws upon a broad, intelligent plan is one of the great responsibilities which Congress should promptly undertake. The business interests of the country should go before Congress with well-considered and practical plans through which we may be permitted to meet the competition of the federation of British industries with its 16,000 manufacturers and its capital of \$25,000,000,000.

REVISION OF ANTI-TRUST LAWS

We call special attention to the very illuminating address by George H. Cushing before the Wholesale Coal Association at Chicago, which appears on another page of this issue, concerning the present tendencies in the coal industry. In summing up his conclusions Mr. Cushing presents three important problems, all of which require for their solution that the Department of Justice shall not be required to bring criminal prosecutions under the provisions of the Sherman Anti-Trust Law in every instance where some slight violation shall be suspected, notwithstanding such alleged violation shall inure to the public benefit.

Real cooperation in the whole mining industry—coal, metals and oil—is essential to a proper presentation of the needs of the mining industries to the political agencies of the nation. The American Mining Congress furnishes the common ground through which all these branches of the mining industry may function.

Other branches of mining have an equal interest with coal in securing the right to cooperate and their support must be obtained in order to present a united front in these matters.

Some influential interests are firm in the belief that the Sherman Anti-Trust Law should be repealed. Another school of thought believes that this law is the salvation of the consumer and that, without the benefit of its provisions, all kinds of extortions would be practiced by the productive agencies of the nation. The more intelligent school, as THE MINING CONGRESS JOURNAL believes, feels that advantage should be taken of the great lessons taught by the war, viz., that to secure the highest efficiency there must be complete cooperation between productive units. Such cooperation was required by the Government during war times, and notwithstanding the waste occasioned by haste and by political mismanagement, the powers of the nation, in spite of these overwhelming handicaps, were centralized. The result of its efforts were such as to startle the world and to create a war machine so stupendous that a survey of its proportions brought the German war party to its knees and brought about an early termination of the war.

This great lesson should not now be unheeded. Its disadvantages should be carefully avoided; its advantages should be applied in the future development of the industrial power of the nation. This means that combination must be permitted but that such combination must be under such governmental supervision as will permit the good to function and prevent the bad from exercising its powers.

The coal industry lies between the upper and the nether millstones—centralized purchase of its product upon the one hand, and a centralized control of the cost of its labor and supplies upon the other. This great problem is now being considered by the American Mining Congress Committee on Revision of Anti-Trust Laws, representing coal, iron, oil, minerals, lumber, and their related industries. Suggestions will be gladly received by this office for the use of this committee.

The American Mining Congress hopes to bring together the united action of all of these industries in favor of such broad, comprehensive and liberal principles as will make possible the highest efficiency of operation, and the most complete conservation of the natural resources of this country to the end that labor may have its just reward, capital its fair profit, the consumer a fair price and that the future supplies of the nation may be properly conserved.

INDUSTRIAL INDEPENDENCE

A news item in the *Manufacturer's Record* states that Congress will give early consideration to a tariff measure intended to protect "infant industries." This is not exactly "news," as those who have been in contact with affairs in Washington have heard much talk of tariff legislation.

Just what will develop in Congress no man can prophesy, but one great fact stands out with dramatic force. If there is a failure of the proposed League of Nations to control the world, the United States must stand as the bulwark against which the enemies of civilization must be broken.

Britain and France and Italy are worn, debt-ridden and man-weakened. Germany, with all her vaunted pride and boasted sensitiveness over her defeat, is shorn of power, a groggy contestant in whom the world can see no virtue. But there are elements of danger in unexpected places, and who is able to measure how far the existing unrest will carry civilization, already on the brink of a widening chasm?

It is no longer a question of politics. It is not likely that the two great political parties will change policies, nor will they lie down together, but there has come a time when the affairs of this nation claim priority over policies of parties, and THE MINING CONGRESS JOURNAL expresses the hope that even though the "Protective Tariff," in the common acceptance of the term, is taboo with the present administration, careful, thoughtful considera-

tion will be given to national defense problems.

America can almost, if not quite, produce all of her war material if the production thereof is not hampered by impossible financial conditions in the face of insurmountable difficulties, such as low-cost foreign competition. Congress should consider well the construction of a wall of defense at the sea-coast, not built of steel and concrete, but based upon the domestic development of our natural resources. This country can be and should be made industrially independent.

THE UNEMPLOYMENT PROBLEM

While industrial conditions have not yet reached a normal basis, it is a most hopeful sign that there has been in this country no great unemployment of labor since the signing of the armistice.

The mining industry as a whole is not employing its usual quota of men, notwithstanding the fact that many mines of the larger companies able to stand the loss are being operated solely to keep men employed and to maintain industrial organization.

During the war the price of copper was fixed at 26 cents, based upon the then wage level and costs of supplies. When copper prices dropped from 26 cents to 15 cents it was plain enough that the old standard of wages could not be paid except at a great loss to the copper producers. Under these conditions a compromise was affected and we are glad indeed to be able to compliment in the highest terms Mr. Charles H. Moyer, president of the Mill and Smelter Men Union, for a broad, liberal view of the situation which recognized clearly that 26-cent copper could not be sold for 15 cents at a profit. He advised against labor disturbances and agreed with the operators upon such compromise as would break the shock of the enormous loss which continued operations necessarily entailed. We have had occasion to criticize Mr. Moyer and we are equally glad of an opportunity to commend him. This kind of labor leadership will build up organized labor and command for it

the respect of its opponents. That there has been no unusual unemployment during these months following the armistice, gives certain assurance that the readjustment of business conditions in this country will be accomplished without the suffering and want which usually follow similar readjustments. Prices are still too high. Wages cannot be brought to a lower level while costs of living are maintained at present-price levels. The effort of the price-fixing board of the Department of Commerce to regulate prices has not met with the desired results. The refusal of governmental agencies to purchase supplies at a fair relative price in order to ease down the shock of quick contraction has neutralized the efforts of this board. It is estimated that the average cost of labor service is about 80 per cent more than during ordinary times and that the price of many commodities has advanced 250 per cent. This unusual advance in price is not justified and much of it must be charged to profiteering. Such profiteering is bound to find its Waterloo. The law of supply and demand must necessarily effect a radical adjustment of this situation. The merchant with heavy stocks of goods bought at high prices must for a time forego profit as one step toward a readjustment of this condition. The heavy stocks of goods on hand at the opening of the war, were, as a rule, marked up to meet the increasing cost of replacement. Goods bought at war prices must be sold in competition with more cheaply produced goods as they come into the market, and every merchant must stand a loss until the regular competitive price level is reached. THE MINING CONGRESS JOURNAL does not advocate low prices nor low wages. It advocates low production costs based upon high efficiency. Secretary of Labor Wilson is authority for the statement that the amount of unemployment in the United States is at this time below the normal. It is hoped that much of the unemployed labor and many of the returning soldiers will drift to the farms in order that a surplus of food production may bring down living

costs to such a point as to make possible such wage reductions as will put us on a fair competitive basis with foreign markets. The quickest way to normal levels is to decrease the cost of living. A full production from the farms is the easiest and most certain remedy for high living costs.

THE PROGRAM OF COAL CONTROL CONDEMNED

Some two months ago a proposal was made in Washington that the coal business should be brought permanently under government control. There was to be created a sort of a department of mines, that is, there was to have been created a new industrial cabinet to supplement the existing political cabinet. The proposal was for the creation of elaborate machinery for the handling of business. One of the branches of the Government was to devote itself extensively to the coal industry.

This proposal was made to the coal industry with the suggestion that coal should endorse it. The matter went officially to the members of the National Coal Association on a referendum, with the suggestion that the members instruct their directors and that the directors should vote upon it at a future meeting.

The board of directors held a meeting at Cleveland on April 24 and voted the whole proposal down.

We are not stating anything which is not commonly known when we say that the reason the coal operators turned down this proposal was that it placed the miners and the operators upon a parity in the matter of advising the regulators. The operators did not want, at this time, to take their miners into full partnership on everything.

This is not a Bourbon stand. That is, it is not the stand of men who never learn anything and never forget anything. It is not the old cry of the old guard that the miners shall have no representation. That is not the issue at all. By no stretch can it be made the issue. We believe we understand the position

of the operators quite fully in this matter, and it is safe to say that it is not a reactionary measure.

On the contrary, the operators take a stand substantially as follows:

"The miners are one element in the coal situation. The other elements are the wholesalers, the retailers and the consumers of coal. It is presumptuous of the operators to say that they and the miners shall undertake to run the coal business to suit themselves and leave these other elements out of consideration.

"Again, the miners are concerned, mainly, with their own end of the business. They are the producers of coal. They are concerned with that end of the business and mainly with that end. Their interest in other subjects is indirect, to say the least, and largely partisan.

"It would not be fair to the other interests in coal to deprive them of representation wholly and to give to the miners a representation which is far beyond their natural scope and supervision over things which naturally belong to others.

"The scheme therefore is wrong, in that it does not provide for a well-balanced representation of all the elements in coal."

We believe this was the reason, mainly, why the operators turned the whole question down. At least that is what started them thinking against the scheme. Once in a mood to be critical, they decided that they did not want to go back under federal control just when they had been fighting for months to get out from under it. Memories of recent days have been too vivid.

At any rate, the coal industry—as expressed by the operators—has taken a stand against detailed federal supervision. It is one of the many signs of the times that business men want to keep their independence.

TREATY-MAKING

A treaty is a contract. It is, therefore, binding upon the several parties who signed it. It takes into account conditions at the time the document was drawn. It is binding during conditions

which may arise afterward. Indeed, a business contract is made, mainly, to provide against conditions which may arise in future. A treaty is expected to serve the same way.

One old business man, when speaking about a contract, said:

"Draw up your contract; make it cover every point you can possibly imagine. When it is written, lay it aside and spend a day trying to imagine how it is going to work out. If it meets every condition which is likely to arise you are safe in signing it."

The same thing might with propriety apply to a treaty. After the contract has been signed and after the treaty goes into effect, it is not enough to say, as a pretext for violating it or annulling it, that conditions have changed. If the contract or the treaty is worth anything at all, it must be carried through.

Speaking of treaties, the German kaiser said that conditions had changed, wherefore he was going to disregard his treaty to honor the neutrality of Belgium. Then the whole world went to war with him and whipped him into a recognition of the fact that a treaty is binding.

Now we have before the world a question of the validity of another treaty. This treaty was made between England, France and Italy. It provided that, if Italy went into the war—which she did—on the side of the Allies, she should get certain things. Italy played her part through. Now she claims the reward.

As a pretext for breaking this treaty it is urged now that conditions have been changed. One change is that America also went into the war. The American President has taken a stand against secret treaties. He has said that they must not be made in future.

Also the new free state of Jugo-Slavia has been formed and has become a power in the Balkans.

We have no intention of taking sides with Italy against the President. We have no intention of discussing the merits of this controversy at all. We are merely talking about the principle of law that is involved. The international law is that a treaty is binding upon the par-

ies which sign it. It is not to be set aside by any change of conditions after it has been made.

This treaty was among Italy, England and France. It is binding upon those three. The insertion of America and Hugo-Slavia into the situation does not in the least change the obligation of England and France to Italy. They have promised to give Italy certain things. Under international law they are obligated to make good their promise—or to just themselves in trying.

The word of the President of the United States is not international law. It may help to shape international law, but it does not make it. There has been no international law against secret treaties. Because the President of the United States stands out against such secret treaties does not make that the law of the world. The fact is that three European powers made a secret treaty at a time when such practices were common. Having made that treaty, they are bound to it under international law and America cannot set it aside without being guilty of doing what we condemned William Hohenzollern for doing.

Also, at the time this treaty was made Hugo-Slavia did not exist. The elements which now comprise it were, in major part, then in the camp of the common enemy. That being the case, the subsequent organization of those elements into a new free state does not automatically set aside the treaty between England, France and Italy. It does not create a new condition which will justify breaking a contract which has a firm footing in international law.

For another thing: Even if the word of the President of the United States should, by some legerdemain, become international law, it is not retroactive. He cannot say, in the spring of 1919 that there shall be no secret treaties and have that react to nullify secret treaties made two or three years before. At least he cannot make his mandate retroactive without the consent of the parties involved in this secret treaty. One of those parties—Italy—has said that this new order of things shall not be retroactive

to the point of stripping her of what she fought for.

If we are to form a League of Nations it must be a league of law. It is a bad way to start a league by disregarding the fixed principles of international law which have governed for centuries.

THE DIPLOMATIC SERVICE

There are signs that the State Department is awakening to the fact that all or nearly all international relations are based upon trade. A committee has been formed with representatives from the different bureaus interested in foreign trade which meets frequently and discusses international trade relations, especially those concerning the interests of the United States. However, the good old days when consulships and ministers' posts were filled with "deserving" politicians of the party which happened at that time to be in power and when such "deserving" politicians were of a stripe that could get the United States into trouble as they did in Chile and in other places, have not altogether passed.

Although the appointment of diplomatic representatives has somewhat grown away from the wholly political idea, it has not yet reached an advanced state. Apparently those appointees who are not given posts on account of their political affiliations and services are appointed only from the ranks of those who have "majored" in colleges of law or economics.

The State Department, however, has begun to see the importance of international trade. If this point had been reached fifty years ago, or even ten years ago, the position of the United States in its trade relations at the beginning of this war and now at its close would have been vastly different. We would not have suddenly waked eighteen months ago to find that Germany was deeply entrenched behind a carefully planned system of finance, a system which was adapted to the countries in which it was to operate and which was not founded wholly on customs in Germany. It would not have been a total surprise to find that the English Government was backing its

trade representatives—not only its diplomatic representatives, but merchants and financiers who had gone in various parts of the world to trade; that England as a government was backing these people; that English credit was extended to those who bought English goods, and that unless English goods were bought English credit could not be obtained; that England held great blocks of railroad stocks in Argentina and Brazil, shutting off the iron fields of Brazil from American exploration and preparing for a continuous stream of British-made railway supplies to refurnish the British-controlled railroads.

We have believed and still believe that America makes the best in machinery, in textiles, in tools and other manufactures. We have traded among ourselves until we have reached about our limit. If our factories are to expand we must have a foreign market. But we have had representatives who knew little of the products of the country to which they went and were more interested in politics and law than in the products either in the country to which they were sent or at home.

Would it not be just as easy to have sent prepared men. There are probably no schools in the world equal to the Agricultural Department, to the Geological Survey, and in a less degree, because younger, to the Bureau of Mines, for training men for just such positions. Take, for instance, Bolivia. Its interests are predominant in mining. Here might well have been sent a geologist trained by the Geological Survey, or in one of our great universities, than which no better exist. If instead of a young lawyer or a young graduate in economics, there had been a trained man from the Bureau of Mines, the needs of the country in machinery could have been placed before the American manufacturers. The needs of the mining industry of Bolivia for banking facilities could have been placed before our financiers with the maximum of knowledge.

In southern China the United States has been represented by hard-working, intelligent and efficient officers, but if they had been geologists the United

States would have had much earlier warning of the great supplies of tungsten ores which have come from that country and would now know what should be expected in the future. China is a good example to show the diversity of men required for our foreign representatives.

In the silk-growing centers, a man from our own silk centers could well be placed. Another geologist should be placed at Changsha, the world's greatest center of antimony production, in which are also tin, arsenic and tungsten mines.

In the rice-growing centers an expert from the Agricultural Department familiar with this industry could well be placed.

In the tea-growing areas another agricultural expert should be located.

Japan would need men of similarly diverse training—one or more men with knowledge of minerals both in the empire proper and in Korea, ceramists and experts in pottery.

In Brazil a man from the Forestry Bureau could well be placed at Para and Manaos, or both, from which the trade on the Amazon could be kept in view. At Rio de Janeiro a geologist to watch the iron, coal and magnesite production. Minas Gerses another geologist. In Sao Paulo another geologist. In Porto Alegre a man from the Bureau of Animal Industry, and other men skilled in animal industry at Uruguay and Paraguay, accompanied by agronomists and experts in citrus culture. Agronomists should also be located at various points in Argentina, with a geologist or mining engineer to keep track of the oil, tungsten and copper, and an expert horse and cattle man in all of the countries south of the Amazon. Chile should have a geologist to keep track of the iron, copper and nitrates. Venezuela, Peru, Colombia, Ecuador and the Guianas need geologists or mining engineers to keep the United States acquainted with the great mineral industry now developing. The very thought of Mexico brings to mind minerals and mines. The minister should be a mining engineer. There is no reason why a mining engineer should not be an ambassador or a minister, and were it

necessary to have a lawyer he should have a man with knowledge of mining as his attache. Indeed, it is much more important that a knowledge should be had of the country's trade and resources than a mere knowledge of the country's laws and customs, although, of course, both should be studied at the same time. Siberia and Russia will soon be opened up to trade. The period of anarchy cannot last very long. New men will be sent and it is one of the world's great treasure fields in which the mining engineer and geologist must have a large part.

Africa and Australia have their huge mineral supplies, for descriptions of which we must depend on technical literature or the imperfect descriptions of men trained in other lines.

The world is running short of fats. Pasturage becomes shorter and shorter each year and animal fats must be replaced by vegetable oil.

We need men from the Agricultural Department or from our agricultural colleges to keep us informed ahead of time on the sources of edible and other commercial oils from Manchuria, China, and especially from the tropical parts of Asia, Africa and America. We have an almost unlimited supply of technical talent well trained. Let us put it to the use which will do us the most good as a nation.

A STARTLING COMPARISON

At the beginning of the war the indebtedness of the Central Powers was approximately \$8,900,000,000 and, at its close, \$64,000,000,000.

At the beginning of the war the indebtedness of the allied nations was approximately \$18,400,000,000, and at its close \$130,000,000,000.

Measured by these estimates the cost of the war was to the allied nations, \$119,581,000,000, and to the Central Powers, \$59,500,000,000.

Upon the theory that one-third of the costs of the war was paid by taxation, the total cost to the allied nations was \$84,750,000,000 more than to the Central Powers.

This difference is more than eight times

the present total world's gold supply. Its payment would absorb more than 200 years of the highest world gold production. This is not the cost of the war but the amount which one side expended more than the other. It is the money price paid by the Allies for victory—a result well worth the cost. It may be profitable to examine into this difference. Does it represent a difference in the cost of production between the central and the allied powers, and does it signify that the Central Powers were able to accomplish twice as much within the same money? Or does it represent a surplus of preparation on the part of the Allies? A surplus presenting such grim determination as to destroy the morale of the German armies, and sufficient for many years' continuation of the war, had such been necessary? Does it not represent a preparation which has saved the lives of thousands of our soldiers on the firing line, not so much by what was actually done as what we were prepared to do?

However startling the comparison of costs between the Allies and the Central Powers, more startling still is the mountain of indebtedness which must be met, and, more important still, the necessity of applying the industrial power of this nation to its most beneficial use.

SECRETARY LANE PRAISES PICKARD FOR RESCUE WORK

Mine-Rescue Car No. 7 of the Bureau of Mines, Department of the Interior, with headquarters at Houghton, Mich., recently responded to a call for help in extinguishing a mine fire at the Belgrade mine, Biwabik, Minn. The rescue crew remained at the mine five days, by which time the fire had been extinguished.

The superintendent of the mine in a letter to Director Manning commended the work of the rescuers highly. Later Secretary of the Interior Lane wrote as follows to B. O. Pickard, metal-mining engineer, in charge of the crew:

"Your work and that of the mine-safety car crew at the Belgrade, Minn., fire at Biwabik, Minn., has come to my attention through a letter from the mine owners, and I am glad to add my commendation to that of the Director of the Bureau of Mines. A service was rendered not only to the mining company, but also to the country at large."



Photo by Harris & Ewing

COL. G. A. BURRELL

COLONEL BURRELL—PIONEER IN THE MAKING OF NOXIOUS GASES

Col. G. A. Burrell had thrown upon his shoulders the burden of pioneering work in developing the American gas mask and in getting under way the manufacture of various war gases. He was called from the very active life of consulting engineering work by Director Manning of the United States Bureau of Mines when this country first entered the war.

Director Manning, who first conceived the idea of the great necessity of immediate action on the part of this country in preparing for gas warfare, picked Colonel Burrell at the outset as the man best fitted to undertake the development of this work.

Colonel Burrell is a graduate of the Ohio State University, and after spending a few years in industrial gas work, entered the Bureau of Mines and for eleven years was a gas expert in that bureau. He rapidly came into prominence as one of the country's foremost authorities on problems having to do with industrial gases and contributed a great many papers on this subject. He was recognized as not only a research man of the greatest ability, but also a leader of men with a great fund of knowledge on gases. It was these qualities that caused Director Manning to choose him as the only man who

could bring chemical warfare in this country to its highest state of development.

Colonel Burrell, without hesitation, dropped his consulting work in Pittsburgh, went to Washington and immediately started gathering around him a corps of men to assist in this great emergency. His problem was one not only of getting together an organization in Washington, but of starting work on all manner of problems in all of the research laboratories and the universities throughout the country. In a year's time Colonel Burrell's particular department, the research division, Chemical Warfare Service, United States Army, had grown to a group of 2,000 of the country's best chemists and engineers concentrated at the American University, located on the outskirts of Washington, D. C., which place had been taken over by the Government for this purpose. In addition, there had branched out from this small group of men a number of other divisions, such as the gas defense, the development division, etc., to carry on the other branches of Chemical Warfare Service work.

Colonel Burrell's organization in Washington dealt with both the offensive and defensive side of chemical warfare. They not only had to develop the gas mask from the ground up, but at the same time started the manufacture of various war gases, investigated the possibilities of new gases and carried on a great amount of intensive research upon all the various problems involved.

The American gas mask was the most efficient mask supplied their soldiers of any nation. The Chemical Warfare Service has the distinction of supplying every American soldier with an all-American gas mask and of never having a single soldier gassed while wearing the mask.

After this period of intensive work, Colonel Burrell has resumed his consulting practice in Pittsburgh, Pa., where he is devoting a large amount of his time to adapting the American gas mask to the needs of American industry. This work is of great interest. The foundation has been laid, but it is still the work of the chemist and engineer to intelligently apply the gas mask to the industries so that the greatest amount of efficiency will result.

Lead Market Becoming Stable

The suspension of some of the lead smelters and the curtailment of the operations of the remainder early in the year seem to have established equilibrium, and the market seems rather stable.

Smelters at Monterrey, Mexico, have curtailed operations. Their refusal to recognize the London price during the temporary boom following release of lead from government restrictions resulted in the closing of many mines and consequent reduction of their own operations—Bureau of Mines Minerals Investigations.

FULL PUBLICITY TO BE GIVEN COAL CONTRACTS

Walker D. Hines, Director General of Railroads, on April 18, authorized the following:

"In order to make effective the policy already announced as to publicity in connection with railroad fuel contracts, it has been decided to post on all bulletin boards or in a record book open to the public at the headquarters of the purchasing agent of each railroad under government operation the following facts:

"The name of the coal company or coal operator to whom a contract for railroad coal has been allotted by the railroad in question, the price of the coal contained in the contract, the tonnage involved in the contract, the duration of the contract. Through this method the information listed above will be made available not only to coal miners and coal operators, but the public generally."

NITRATE STOCKS ARE BEING TURNED OVER TO FARMERS

More than 100,000 tons of nitrate, originally produced to help in blowing the German armies off the map of Belgium and France, this year will be put to the more peaceful work of increasing the fertility of American farming soil. After the signing of the armistice the War Department released to the Department of Agriculture 11,000 tons of nitrate at a salvage price. To this quantity is added 40,000 tons received from Chile by the Department of Agriculture too late for distribution last year, so that 151,000 tons will be sold by the Department of Agriculture to farmers under the authority of the Food Control Act, which provided for its purchase and sale by the Government to farmers at cost. Through this arrangement it is estimated that 100,000 farmers will save about \$1,500,000, according to the open-market price and the \$81 a ton f. o. b. shipping point, charged by the Government. Farmers have taken up the full 151,000 tons in orders ranging from a bag of 200 pounds to an order for 300 tons.

The price last year was \$75.50 a ton f. o. b. shipping points, located at six Atlantic and Gulf ports. The Department of Agriculture last year arranged for the shipment of 120,000 tons from Chile, but shortage of shipping space kept the quantity transported in time for use last year down to about 75,000 tons. This year's price was announced early in 1919, and application blanks were sent to county agricultural agents for distribution to farmers.

Harbor strikes at Charleston, S. C., and New York City have seriously interfered with shipments from these points, but a recent arrangement for lightering nitrate destined for New England and New York points from the Erie Basin in Brooklyn was made with the union in New York City, and the nitrate bound for these points is to be moved at once.

Shipments are now being made from twenty-one storage points, and to date shipping instructions have been sent from Washington to forwarding agents covering about 125,000 tons. Records show that about 110,000 tons have actually been shipped, and it is expected that the entire 151,000 tons ordered by farmers will be shipped before the end of May of this year.

The Bureau of Markets, which is in charge of the nitrate distribution for the Department of Agriculture, has appointed at each storage point a forwarding agent and has charged him with the duty of even-weighting, reconditioning, loading and shipping the nitrate on orders received from Washington. These representatives receive from the Department of Agriculture \$1 a year plus the regular commercial rates for services rendered.

Where county nitrate requirements are very light, farmers have been requested to forward cashiers' checks or New York drafts in payment for nitrate at the time of filing their applications, after which the nitrate is shipped direct to them. Where county requirements are comparatively heavy, federal nitrate distributors have been appointed by the bureau, on the recommendation of county agricultural agents, to act as consignees and distributors for all nitrate shipped to such counties. These federal nitrate distributors collect money from applicants, send shipping instructions to Washington, receive nitrate and distribute it to farmers. Shipments are forwarded to these distributors on order notify bills of lading, with sight draft attached. The bureau has designated about 500 federal nitrate distributors.

Japan Active as Steel Producer

Japan is showing great activity as a buyer and is developing her iron and steel industry at home and in China. It can be expected that the production of iron and steel in the Orient will be greatly increased within the next two years.

A deposit of iron ore has been reported in the Celebes Island, East Indies, containing 10,000,000 tons, averaging 50 per cent iron and 0.06 per cent phosphorus. Previous reports have indicated large deposits here amounting to about 1,000,000,000 tons.—Bureau of Mines Minerals Investigations.

PRESENT TENDENCIES IN COAL INDUSTRY

By GEORGE H. CUSHING¹

Before we can get at the big tendencies in coal we must know the big facts by which the coal trade is confronted.

We may say truthfully that all coal men have applied all they should have learned by their experience during this war. But we must admit that the coal man has been taught many things about his business. If he did not absorb it, the fault is his.

He has been taught by the Revenue Law to keep his capital account straight.

He has been taught by Fuel Administration insistence upon careful accounting—and hence upon accurate depletion and depreciation charges—that he must have enough coal land behind his mines to keep coal flowing until he has worn out his equipment.

He has been taught that he cannot know what to charge until he knows what are his costs.

He has been taught that there is a certain natural selling zone for his coal beyond which he cannot go without an expense which is out of line with the returns.

These educational advantages should make for an improved method of doing business in coal.

What we coal men overlook is that similar lessons have been taught to men in other businesses. They have been confronted by the same regulations. They have been put to school to the same masters. But they may be more apt pupils than we are. We dare not assume they are more stupid. They may have learned their lessons better than we. Even, perhaps, they were a little more advanced in business technique than we were and thus learned more easily. We dare not assume anything else.

That confronts us not by buyers who are less intelligent than we are as sellers. They are men of equal or even greater intelligence than we. Therefore, we are not confronted by the fact of an educated industry dealing with ignorant consumers. Instead, we are a paritally educated industry which is dealing with a long list of partially or wholly educated consumers of coal.

We have learned a set of lessons in co-operation—or should have learned them. Other people have learned the same lessons in cooperation and are practicing what they have learned. We are not safe, therefore, if we assume that we are informed and the other fellow is ignorant. We must proceed on the theory that as a result of having had a common education we are all doing business on a common level, even though, perhaps, on a higher plane of intelligence.

That leads me to inquire: What has the

other fellow learned as a result of his war experience? I want to know that, in order that we may match our practices with his enlightened demands.

I appreciate that is a subject shot full of bitterness at the moment. Nevertheless, it is necessary to take into serious account the fact that the railroads have been consolidated and have learned to pool, after a fashion, their purchasing power under a central committee. We may say, as coal men do, that when the Government took over the railroads and when it brought the great weight of centralized railroad buying and of government authority to bear to beat down the price of coal, it exhibited an unjust and unconscionable use of power. Nevertheless, when we look at it in another light we must recognize that it is good business and sure to be quite effective. Because it is good business and because it is an effective weapon, we need not expect it to be abandoned. Rather, we must expect it to be perfected.

This means, of course, that railroads' purchases in future are going to be, if not centralized, at least advised about by a central committee. Therefore, they must express a certain degree of centralization of railroad buying power. Since this method can hardly be fought down, the obvious duty devolving upon coal men is to centralize their sales. They must do so that the scope and power of the central selling organization shall come to equal, in scope and power, the central buying organization of the opposing carriers.

Other groups in other industries have been educated upon business methods. They will try to apply what they have learned in future. To explain what they are doing and why, I wish here to draw a very broad distinction between the position which coal held before the war and that which coal holds now.

Very broadly speaking, before the war coal was one of our natural resources which was sacrificed in order to get money which America needed. Prior to the war we were a debtor nation. We had to repay that money by the sale of some of our natural resources. We could not sell the raw coal. But we could sacrifice coal to the manufacturer in order to develop a manufacturing organization built on cheap power. Then we could sell our manufactured articles and *thus* raise the money with which to pay our foreign debt. We were indeed sacrificing coal in the interest of a larger national commercial program. Therefore, the nation was preying upon its coal measures with the idea of paying the nation out of debt.

¹ Address at the dinner of the Chicago Wholesale Coal Shippers Association at Chicago, Ill., April 24, 1919.

At the conclusion of the war we find ourselves out of debt. We have, therefore, no need longer to sacrifice our national resources in order to free ourselves from debt. Rather, we are a creditor nation. We have money to lend. We have other peoples in our debt.

Also we have sacrificed our natural resources to the point where we, ourselves, are in danger of running recklessly through our inheritance of coal and other things unless immediately a conservation movement is undertaken. On this account we have started on a great campaign to save natural resources. We are saving now to make money as we once wasted to make money. This means that we must do two things, namely:

First, we must get more power out of the fuel that we consume. We must stop the waste of that power after it has been generated.

Second, we must no longer continue to burn the valuable by-products as fuel. Instead, we must begin to extract those by-products and to make them over into the foundation of our chemical industry.

That conservation program is the beginning of two big movements. As an indication of the trend of the times, I recite but one circumstance:

There was placed before Congress at its last session and will be brought before Congress vigorously at its coming session, a proposal that the United States Government should finance an investigation into the feasibility of establishing a power conduit line from a point in Virginia along the coast to a point in northern Maine. The basic idea is that all power plants within reach of that conduit line shall feed that part of their power into that line which is in excess of the amount of power required by the parent plant.

Also all water power which it is possible to generate in that territory shall be fed into this line.

It is proposed to build extensive power plants at the mines, convert the depreciated sizes of coal into power in those plants and feed that power into the central conduit.

All this being done, it is intended to retail this power from that conduit to anyone who wants to use it—whether he be a farmer within reach of that line, a householder in one of the cities, the street car lines in the cities, or, what is aimed at actually, the railroads in that eastern territory are to be electrified and draw their power from this central conduit.

I mean to say that the immediate objectives of this project are two:

1. To pool all power and to have all users draw power out of that pool.

2. To electrify all transportation lines east of an imaginary line drawn north and south through Buffalo and Harrisburg.

The objects of this project are two:

1. To take coal traffic off the railroads, which need their crowded facilities to haul other things.

2. To avoid the waste of power that is incident to the use of too many small power units by the manufacturing companies.

This may be an extreme case. Still it is typical of the kind of cases by which the coal trade is confronted. It means, if I understand it correctly, that the buying power of coal users is going to be concentrated more and more as time goes on. We are, in fact, at the beginning of a new era in coal. This new era will bring new methods among the users of coal.

This indicates a need, therefore, for the establishment of entirely new routines and methods in the coal business. We are not going to meet the demands of this new era unless we make our methods equal to those of the buyers of coal. If their purchasing power is centralized, our selling force must in some way be centralized or, at least, reasonably so.

There is a new force, also, operating upon the production cost in coal. It is unnecessary before an audience of coal men to emphasize the extent to which the labor movement has been centralized not only as the result of twenty-five years of effort toward unionism, but as the result of the war-time propaganda in favor of socialism. I need but mention one thing to indicate the scope of that new movement.

In England in March there was a proposal that the coal and railway workers should consolidate in a great strike to enforce the demand of the Miners' Union for a real adjustment of wages and working conditions. There was at that time a proposal that if England failed to yield to the coal mine workers there would be organized an international strike of coal and railroad workers. Point was given to this threat by the presence in England at that time of the secretary-treasurer of the United Mine Workers of America, who was interviewed as favoring some such a proposal.

If further proof of the solidarity of the working force is necessary, I call your attention to the fact that by mid-April there had been a prolonged wage dispute between the boatmen in New York harbor and the boat owners. So recently as last week these men declared that unless their demands were acceded to there would be a strike of all workers on Manhattan Island.

To carry this solidarity of the workers to a ridiculous extreme, I want to say to you that there actually seems to have been an agreement or understanding among the negro house servants in the District of Columbia. In any event, they all say that they will not return to the old system of personal service. Instead, they insist today upon hiring themselves out for a few hours at a time at so much per hour. They will not accept any other kind of work. You cannot persuade them to do it.

I call your attention to the fact that this whole movement on the part of labor has the sanction and approval of the Federal Govern-

ment. It is even under its encouragement. Federal control of labor—I may say subservience to it—has gone so far that a department has been created within the Department of Labor to educate all imported labor into "the ideals of Americanism."

I call your attention to the fact that this broad billet to educate imported labor has been given to the Department of Labor without any stipulation or drawback as to what the Department of Labor shall teach. The injunction to teach has been given without anyone to supervise the proposed course of instruction or to see that this is not merely a curtain behind which to hide the spread of labor union propaganda among those who are imported hereafter to do the work of America.

No one can look at this solidarity of the working force without realizing that it must be a tremendous influence upon the cost of producing everything—including coal—in America for the next generation. I say it is extremely unlikely that any plans for the control of labor will be modified in any serious particular. They will grow rather than be modified and will be encouraged, because of the very character of our political organization.

I say, therefore, this is a serious situation which confronts the coal industry. It demands an entirely new method of procedure by coal men as far as labor is concerned. I believe that unless the force which deals with labor is equal in scope, authority and power with the organization of labor, the coal industry must be content to suffer to the extent of the inequality between the labor organization and the operators' organization.

I call your attention to one thing more. The Government of the United States has tried in the past, without very much success, to be sure, to regulate business. It has wanted to regulate business in part in the interest of the consumer. It has wanted to regulate in part in the interest of the worker. The Government has been powerless in the face of certain constitutional provisions and in the face of a series of legal principles, established from the beginning of the system of jurisprudence of the Anglo-Saxon race. I do not hesitate to say that our political powers, to curry favor with labor on the one side and the consumers on the other, has been willing and eager to set aside both the Constitution and the legal safeguards.

During the war the Government has had in its employ a great many men who have been devising ways and means by which the Government could come into control of business without actually setting aside either the Constitution or the legal principles of the Anglo-Saxon race. These have not been dull-headed men who act without thinking. They have been the best brains of America. I have encountered them in the departments and in the bureaus. I have been amazed when I came to know about the elevated position from which some of them have come down to

occupy subordinate positions under our Government without pay. These men have struck one keynote which is terribly dangerous.

They have adopted the slogan that the raw materials of the world are the common possession of all the people. The peculiar thing is that in an idealistic, in an economic and in an academic sense, that is true. It always has been true. It always has been recognized as the fundamental principle of our jurisprudence.

However, the communistic interpretation of this theory which is now advanced has always been held in check by our legal principles, which have recognized that the right to possess private property is superior to the right of all to a free use of our raw material.

These scholarly gentlemen believe that this nation has advanced to a point where the common—communistic—ownership must be more insisted upon and, therefore, that the private ownership of these natural resources must, in a sense, be subordinated. On this account they have proposed that we should bring a certain number of our essential raw materials under detailed control by the Federal Government by creating a new industrial cabinet, which shall be the successor of the War Industries Board, and which, in turn, shall control the raw materials by having a department devoted to each. Thus, in the industrial cabinet there would be a department of coal, a department of iron ore, a department of oil, a department of copper, etc. I do not know or believe that I am expressing the details of this proposal accurately; I am merely stating it in this way to get the idea concretely before you gentlemen.

The basic theory of it all is that if the nation controls the raw material, it automatically controls all the business that grows out of the use of that raw material. In this adroit and clever way the Government proposes to surmount its past difficulties and come into minute control of the business of the United States. I wish I had time to elaborate upon what this means, but I have already spoken too long upon the details and must hasten to the conclusion of it all.

We are thus confronted by this imposing array of facts:

The purchasing power of the coal users is going to be concentrated into a few hands which, when not offset by an equally centralized selling power, has a tendency to beat down the selling price of coal.

The essential force in production—labor—is being concentrated into a few hands. This power to negotiate the wage of labor is opposed by no equally centralized organization among the producers. This tends to advance the cost of production.

Also, we have a proposal on the part of the Government to control coal—which is a raw material—in order, thereby, to control the business which grows out of coal.

Every way the coal industry turns, it faces solid opposition expressed in unit form.

Within the ranks of the coal industry we have remaining the old decentralization. One operator is pitted against another operator even in one district. Between one producing district and another producing district, there is intense rivalry, extreme competition, business jealousy, and sectional antagonism.

Coming into the larger reaches of the trade, we have a lack of understanding, amounting almost to civil war, between the producing function and the wholesaling function. And we have, as between the wholesalers and the producers on one side and the retailers on the other, the very opposite of any common purpose.

With the coal industry divided and subdivided into warring factions, we stand at every point confronting consolidated opposition. This, if continued, must end in nothing but the embarrassment, if not the destruction, of the industry itself.

My only proposal and my only cure for the situation which is before us, is that knitting together of the various units, which must mean a solidarity of the coal trade equal, at all points, with the solidarity of our opposition.

To the political forces of the United States, we must present an organization which expresses itself with one voice, one opinion, through one man.

To the labor in the mines, we must present an organization equal in power and scope to their own.

And, to the centralized coal buyers of the United States, we must present the authority of a centralized selling organization equal, at least, in scope and power to that of the coal buying organization.

If organized society is, as indicated, going to unite against the coal industry, the coal industry must unite equally to meet that opposition. I would like to paraphrase here the remarks of Senator Bailey. Confronted by this situation, other men may, if they choose, join forces with those who oppose us. Others may do the same thing by encouraging strife within our ranks. But so far as I am concerned, if I should do either, I would feel that I had taken my place between Judas Iscariot and Benedict Arnold.

Sulphuric Acid in Little Demand

There is little demand for sulphuric acid, and in spite of the fact that production has been greatly curtailed there are heavy stocks on hand. Consumers of acid, knowing that the acid stocks are heavy, are not coming into the market, preferring to wait till the acid is offered. Producers are striving to maintain the price to at least equal the costs, and are curtailing production to prevent a larger surplus being made. In the Mississippi Valley, where there is a large production of by-product acid, the price of acid is lower than in the eastern districts.—Bureau of Mines Minerals Investigations.

END OF TIN RESTRICTIONS

AT HAND, MANY BELIEVE

Inasmuch as the domestic tin smelters are not permitted to sell in the open market except in less than 5-ton lots, they will be unable to supply the demand of the larger consumers. Therefore, the large consumers will be compelled to turn to the Steel Products Company for their needs and thereby hasten the distribution of government stocks.

Both importers and consumers are speculating as to how soon government restrictions will be removed and an open market for pig tin and tin ore announced. It has been generally rumored that May 1 should see the winding up of government control, after which imports on Straits tin and Bolivian tin ore would be allowed, but this rumor has been officially denied as having no foundation in fact. The embargo on London and Canadian tin may be maintained some time longer to permit the American Smelters to dispose of the stocks they now have on hand, which represent an average cost of production somewhat above the present London quotations.

It is reported that the American Smelting and Refining Company's output of tin smelted at Perth Amboy, N. J., from Bolivian concentrates was 19,869,000 pounds in 1918, as against 12,130,000 pounds in 1917.

Announcement has been made that a new tin smelter will be built in the vicinity of New York having a capacity of 300 tons of metallic tin per month.—Bureau of Mines Minerals Investigations.

CUBA TO HAVE GEOLOGICAL SURVEY—ASKS LANE'S HELP

General Agramonte, Secretary of Agriculture, Commerce and Labor of the Republic of Cuba, recently sent George Reno, chief of the Bureau of Information, to Washington to present to Secretary Lane a request for cooperation in the establishment of a geological survey of Cuba. The visit to Cuba last year of Messrs. Burch and Burchard, representing the Bureau of Mines and the Geological Survey, respectively, in connection with the investigation of deposits of chrome and manganese not only called attention to the mining development of these ores but awakened interest in the mineral resources generally of the island.

Secretary Agramonte appreciates the necessity of basal investigations and has called upon Secretary Lane for assistance, which cooperation has been warmly promised in view of the interest which the United States Government feels in all that concerns the internal development and prosperity of Cuba.

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BUSINESS SUBNORMAL IN MOST LINES, SURVEY SHOWS

A post-armistice trade conditions survey just completed among the 4,400 industrial establishments comprising the membership of the National Association of Manufacturers shows that with the exception of five out of twenty-two principal groups of industries throughout the United States, business activity is approximately between 25 and 50 per cent of normal.

The five divisions of industry reporting a predominating condition of present business prosperity are the jewelry and silverware, musical instruments and vehicle groups (the last mentioned including automobile manufacture), rubber and tobacco.

Sixteen out of the remaining seventeen

groups of industries reported general unsatisfactory business conditions below 50 per cent of normal. The exception, namely, leather and manufactures, reported business about evenly divided as between fair and good.

Analysis of the reports received from manufacturers by geographical districts fails to indicate any considerable business activity in districts other than those largely devoted to manufacturing jewelry (around Providence, R. I., or Attleboro, Mass.), and a few sections (such as Detroit), where automobile manufacturing plants are situated.

With the five principal group exceptions reporting comparatively good present business conditions (namely, jewelry and silverware, musical instruments, rubber, tobacco and vehicles), the canvass shows that manufacturers in general do not view the trade probabilities for the balance of 1919 as very bright. Although an underlying note of confidence is observed throughout all the statements made by manufacturers, the larger percentage of those who replied, fixed the prospects as from poor to fair, so that little improvement over the present period of trade activity is expected by many of the leaders in the manufacturing world.

In the general order of importance the following factors are stated to be the chief obstacles now prevailing to prevent general business activity:

1. Delay in signing the treaty of peace.
2. General high costs of labor and materials.
3. Sudden cessation of war buying operations by the United States and foreign governments.
4. Hand-to-mouth buying by jobbers, retailers and consumers awaiting expected price reductions.
5. Continued government control, management and operation of railroads, etc.
6. Sudden imposition of heavy war revenue tax burdens on industry.
7. Labor unrest, agitation and industrial strife.
8. High prices of wheat due to government guarantee.
9. Unemployment and poor distribution of labor forces released from military or naval service.
10. Delay in settlement by Federal Government of claims for payment under informal war contracts.
11. Partial shutting off of important European markets due to import trade embargoes by Great Britain, France and Italy.

Graphite Studies to Continue

Arrangements have been made to continue the investigations on the manufacture of graphite crucibles at the experiment station at Columbus, Ohio, with particular reference to quality of crucibles that may be made of domestic graphite.—Bureau of Mines Minerals Investigations.



Photo by Harris & Ewing

DR. GEORGE F. BECKER

BECKER—NOTED GEOLOGIST— DIES AT AGE OF 72 YEARS

Dr. George Ferdinand Becker, the widely known geologist, died in Washington, April 20, at the age of seventy-two. He was born in New York City and was the son of Alexander Christian Becker, of Denmark, and Sarah Cary Tuckerman Becker, the daughter of Rev. Joseph Tuckerman, of Boston. Dr. Becker was the last member of the group of distinguished geologists who, in 1879, were associated with Clarence King at the time of the organization of the United States Geological Survey. He was a leader in mining geology and geophysics and for many years had been the chief of the division of chemical and physical research in the Geological Survey, and the investigations under his direction led to the establishment of the Geophysical Laboratory of the Carnegie Institution of Washington.

Dr. Becker was a graduate of Harvard, received the degree of Doctor of Philosophy at Heidelberg, and later graduated from the Royal School of Mines in Berlin. He was for four years an instructor of mining and metallurgy in the University of California, from which he came to the United States Geological Survey.

He was one of the pioneers in governmental efforts to guide and encourage the development of the mineral resources of the west.

In 1880, when essentially the entire technical staff of the Geological Survey was utilized by the Bureau of the Census in taking the census of mineral production, the statistical work west of the Mississippi River was placed in Dr. Becker's charge. A little later his personal solicitations before committees of Congress were largely responsible for the permanent establishment, under the auspices of the Geological Survey, of the annual statistical canvass of the mineral industry of the country now carried on by the division of mineral resources of the Survey.

In 1880, also, Dr. Becker began the study of the geology of the famous Comstock silver lode, which, even at that time, had yielded \$325,000,000 in bullion and is imperishably associated with some of the most romantic episodes in American mining. The results of this work were published in monographic form in 1882. The summers of 1883 to 1885 were spent by him in the study of the quicksilver deposits of California, and in connection with these studies a visit was made by him to the famous old Almaden mine in Spain. He is one of the pioneers in the geological work in the coal and gold fields of southern Alaska visited by him in 1895.

Dr. Becker's geological observations and studies were not, however, confined to the United States, for in 1896, under the auspices of an English company, he visited the Rand gold fields, South Africa, some of his observations there being later published by the Geological Survey. In 1898 he reported to the military governor of the Philippines as geologist and spent fourteen months in the islands. Although prevented from accomplishing much in the way of active field work because of the hostile attitude of the natives, he was able, during that period, to compile a very useful review of the geology of the islands as known at that time. In connection with this Philippine service Dr. Becker prepared a special report for President Roosevelt on the desirability of scientific explorations in the Philippine islands.

Dr. Becker also rendered national service in the Canal Zone as a member of special committee under the auspices of the National Academy of Sciences, for the purpose of investigating the geologic phases of the engineering problems of the Panama Canal.

Dr. Becker was a member of the National Academy of Sciences, the Washington Academy of Sciences, the American Institute of Mining Engineers and the Metropolitan and Chevy Chase Clubs. In 1914 he was elected president of the Geological Society of America. Dr. Becker was the author of more than a hundred scientific papers.

Dr. Becker is survived by his widow, Florence Deakins Becker.

Bulkeley Wells, president of the American Mining Congress, is again at Denver, Colo., after several weeks' stay in California.

PROBERT TELLS OF SITUATION IN FRENCH IRON DISTRICTS

Frank H. Probert, consulting engineer of the Bureau of Mines, Department of the Interior, and dean of the College of Mining, University of California, member of a special commission to investigate the damage done by the Germans during the war to the coal and iron mines and the steel works of France and Belgium, after a personal investigation, has returned to Washington with a first-hand story of the almost unbelievable atrocities of the Huns in the destruction and wreckage of the industrial life of France and Belgium. So systematic and diabolical has been this destruction in one great coal-mining region, Mr. Probert says, that it will take at least five years to rehabilitate this district, and it will be twelve to fifteen years before it gets back to normal, pre-war output. He predicts that with the indomitable spirit of France, in spite of the fearful destruction to her steel works, with the return of Alsace and Lorraine to the motherland, France will eventually become the dominant factor in the future steel industry of Europe.

In a preliminary report to Van H. Manning, director of the Bureau of Mines, Mr. Probert says in part: "Early in the war the German hordes swept southward through the iron basins of French Alsace and Lorraine, and for nearly four years this renowned mining area was held and exploited by the invaders. Many of the employes were made captives and compelled to work in the mines under German direction. The international boundary between France and Germany was drawn in 1871, to give the victor of the Franco-Prussian War control of the iron fields, but since that time scientific development, guided by a better understanding of the local geology, exposed for France a greater ore reserve at lower horizons than that of the Lorraine Annexee.

"During the German occupation the iron mines were not intensively exploited because of the necessity of recruiting every able-bodied man into the Teuton army and on account of the large accumulation of war minerals in preparation for the war. The actual physical damage to the iron mines is comparatively small when compared to the destruction of the coal fields of northern France, which is as reprehensible as it is complete. Only in a few cases, where pillars have been robbed in the mines, is there any collapse of underground workings, but the equipment, both surface and underground, has been misused, and where ore has been mined, the lack of development will defer realization of capital until the exploratory work is sufficiently advanced to admit of daily out-

put approximating pre-war conditions. The mines are not seriously crippled, but what of the steel plants in which the iron ores are smelted? In my opinion no such atrocity was ever perpetrated against the industrial life of any country. Magnificent plants, comparing favorably with anything we have in the United States, are now but a tangled, twisted mass of structural steel and broken stone. The wilful demolition was scientifically planned and systematically carried out. This after the removal of all such mechanical and electrical power units as could be used by Germany. The maliciousness and efficiency with which this crime against French industry was carried out is almost unbelievable.

"In the coal districts of Pas de Calais and Nord, a sector fought over from the beginning to the end of the war, changing hands frequently, bombarded all the time, all surface structures, whether of town, village or mining enterprise, have been razed. Perhaps this may be legitimate warfare, but it is horrible to look upon now since the guns are silenced and the frenzy of combat is past. Arras, Douai, Bethune, Bapaume, Lens, Loos, Courriere, centers of coal-mining activity but a few years ago and the mainsprings of French industrial life, are gone, but the indomitable spirit of France survives and already plans are laid for the future. Bruay, at the western edge of the known coal field, was not in the fighting zone and its output has been steadily maintained, but going eastward the frightfulness is more and more appalling, for the hate of the Hun left its mark on the mines during his forced retreat. The coal measures are overlain by water-bearing strata, necessitating special methods of shaft-sinking and support to keep the mines dry. The steel lining of the shafts was dynamited, letting in the quicksands and flooding the underground workings for miles around. In the entire Pas de Calais region it is estimated that 120,000,000 cubic meters of water must be pumped before mining operations are resumed. Having flooded the mines, the head frames and surface equipment were systematically dynamited, the twisted debris in many cases filling up the demolished shafts.

"The Saar coal fields were visited by Bureau of Mines officials. Here, in striking contrast to the mining districts of France and Belgium, the coal industry is at its height. German workmen and German engineers are still employed, but under the direction and supervision of French officers. A spirit of unrest is apparent everywhere, the suspense of the peace negotiations, uncertainty as to indemnity to be exacted and lack of food is telling on the already broken morale of the German workmen. Unfortunately the Saar coal

does not give a desirable metallurgical coke to France and the blast furnaces are now working inefficiently. Westphalian coal is much desired and a special committee, of which George S. Rice, of the Bureau of Mines, a recognized authority throughout the world on coal mining, is a member, has left for Cologne to investigate the possibilities of early shipment from the Westphalian field to France."

WEIGHTS AND MEASURES

CONFERENCE TO BE HELD HERE

Weights and measures officials of the United States will meet in annual conference at the National Bureau of Standards, Washington, D. C., for four days, May 21-24, inclusive, according to a decision of the executive committee of that association, which has power to determine the date and arrange the program. Tentative plans have been completed and invitations to send representatives have been extended to the governors of the several states and the Commissioners of the District of Columbia. Due to the demands incident to the war upon weights and measures officials, especially those of the Bureau of Standards, some of whom are officers of the association, no annual conference has been held since 1916. This has caused much important business to accumulate, which, with the discussion of new conditions arising as a result of the war, promises to make the conference this year one of the busiest and most interesting ever held.

The objects of these conferences are to bring an exchange of views between the men who are engaged in the important task of inspecting, weighing and measuring apparatus and to secure greater efficiency and uniformity in the work. When it is remembered that each state legislates independently on the subject of weights and measures laws, it will be readily seen that there will be a lack of uniformity. This condition did exist very largely before the formation of the association, and one of the first things done was to endeavor to correct it. A model for a uniform state law, as well as one for a city and county law, and a uniform table for tolerances on weighing and measuring apparatus, were drafted. These have been widely adopted throughout the country and as a consequence much has been accomplished toward eliminating the chaotic conditions relating to non-uniformity in weights and measures laws.

The first conference was held in January, 1905, at which time there were present, in addition to officials of the Bureau of Standards, representatives from eight states and the District of Columbia. This number has steadily increased from year to year up to the last conference, when the representation numbered eighty-three, comprising delegates from twenty-one states, the District of Columbia, Porto Rico and the Philippine Islands. In addition, fifty-seven visitors, representing

all of the large railroads of the country and numerous manufacturing concerns having weights and measures problems to solve were present, attesting to the important position the association has attained as a national organization.

The officers are: Dr. S. W. Stratton, director of the Bureau of Standards, president; W. L. Waldron, state superintendent, New Jersey, vice-president; F. G. Barnard, sealer, Michigan, treasurer, and Major L. A. Fischer, chief of the weights and measures section of the Bureau of Standards, secretary. These, in addition to the following, compose the executive committee: J. G. Farrel, New York; G. E. Carpenter, Vermont; C. G. Johnson, California; L. S. Schoenthal, District of Columbia; T. F. Egan, Connecticut; J. M. Mote, Ohio; F. G. Tighe, New York City; W. F. Cluett, Illinois; E. C. Lytton, Iowa; J. R. Smith, Tennessee; O. N. Creswell, Arizona; I. M. Howell, State of Washington, and Thure Hansen, Massachusetts.

COVERING FOR CONCENTRATION TABLES

Linoleum has generally been used for this purpose, but has not been entirely satisfactory because the cyanide solution used in ore recovery blisters it, thus making its life short.

Recently a new material has been successfully tried, especially in gold recovery. It is a cotton-base fabric having a pyroxylin coating. It is thinner and decidedly more pliable than linoleum, but is as waterproof as rubber.

The Portland Mill of Victor, Colo., has operated one of its tables, covered with this material, continuously for a year without change. It showed no blistering and little deterioration otherwise.

The material was designed originally to be used for automobile and furniture upholstery—it is a leather substitute, in fact.

Mr. Thomas B. Crow, manager of the Portland Mill, and Mr. Luther Lennox, assistant mill superintendent, invite mining and concentrator men interested in this subject to write them for any additional information desired.

Louis S. Cates, general manager of the Consolidated Copper Company, who has spent several weeks in the east, has returned to his home in Ray, Ariz.

Wolf Safety Lamp Company of America, Inc., announces that the expansion of their business compels them to move into larger quarters, which are located at 227 Grand Avenue, Brooklyn, N. Y., to take better care of all orders in the future. They will use the larger space at their disposal to increase their manufacturing facilities.



Harris Ewing Photo

E. R. LLOYD

Geologist recently put in charge of the Geological Survey's petroleum statistics.

CONTRACTS FOR FUEL OIL ARE AWARDED BY SHIPPING BOARD

The Division of Operations, United States Shipping Board, Emergency Fleet Corporation, on April 24 awarded contracts to the lowest bidders on bunker fuel oil, bids for which were received and opened April 22, as follows:

Galveston.—Four hundred thousand to 600,000 barrels. To the Magnolia Oil Company of Texas on their low bid of ninety-seven cents a barrel for grade "C" oil on first delivery; and eighty cents for Panuco crude. Philadelphia.—Seven hundred thousand to 1,000,000 barrels. To the Pan-American Petroleum Company of New York on their low bid of \$1.10 per barrel for grade "C" oil, first delivery, and \$1.17 per barrel, same grade, on second delivery.

Boston.—Five hundred thousand barrels. To the Pan-American Petroleum Company of New York on their low bid of \$1.05 per barrel for grade "C" on first delivery and \$1.10 for second delivery.

Cristobal.—Twelve hundred thousand to 1,750,000 barrels. To the Pan-American Petroleum Company of New York on their low bid of \$1.12 for grade "C" on first delivery and \$1.20 on second delivery.

Federal Taxes

Among the timely and valuable publications perhaps none will be received with greater satisfaction than the work of George E. Holmes on Federal Revenue and Profits Taxes. The first edition of this work was published last year and met with very general favor with all those who had dealings with the Internal Revenue Department of the Federal Government.

The 1918 law, which made many changes in the law of 1917, is fully considered in the new edition and every question seems to have been fully covered by the discussion. Mr. Holmes has brought to this work matured training thorough knowledge of his subject based on practical contact with the Federal tax authorities, and literary qualifications to produce a work which will command attention and respect of the bar as well as the layman. Mr. Holmes was a member of the American Mining Congress Committee on Mine Taxation and in that capacity rendered extremely valuable assistance in connection with the enactment of this law. The work is published by Callaghan & Co., Chicago.

First Chrome Find

What is said to be the first chrome deposit opened in the United States was found in what is known as "Soul's Delight," 15 miles out from Baltimore, by Isaac Tyson, a Baltimore dye manufacturer, who, in 1827, located a fine deposit of chrome on his farm. He organized the Mutual Chemical Company of America and for a number of years utilized the chrome in his own business and exported to Germany. Early in 1900 farmers in the vicinity of Soul's Delight began mining on a small scale at odd times and several farmers shipped from 2 to 75 tons annually either to American or German dye manufacturers.

This is the property now held by the Maryland Chrome Corporation, Canton National Bank Building, Baltimore, Md., of which Mr. F. A. Dolfield is president. The mines are at Owings Mills, Md.

The Pittsburgh Coal Company announces that, effective April 2, the board of directors elected Mr. J. B. L. Hornberger vice-president and comptroller, in charge of accounts, taxes and insurance, with headquarters in Pittsburgh, Pa.; and Mr. G. C. Weltzell vice-president, in charge of Ohio and Kentucky mining properties and operations, with headquarters in Columbus, Ohio.

James S. Douglas, president of the United Verde Extension Mining Company, Douglas, Ariz., who has spent a considerable part of the last three years in Europe in Red Cross activities, has returned again to this country and is now at his home in Douglas, where he will continue his work in connection with his properties.

DEPARTMENT OF LABOR NOT PRO-UNION, SAYS ITS SECRETARY

Addressing the representatives of the States attending the conference on a national legislative program for the creation of the public employment service for the United States, Secretary of Labor Wilson today answered charges that the Department of Labor and the United States Employment Service had favored unionism and had favored union members over non-union workers in referring workers to employment. He also urged the establishment of a permanent public employment service on a Federal-state-city cooperative basis:

Dealing with the charge of pro-unionism, Secretary Wilson spoke as follows:

"Since we have been engaged in a Federal way in the placing of workers in the different lines of industry, we have met with some criticism that I feel I ought to bring to your attention and to make some statements concerning them.

"One of the criticisms is that our Employment Service, the United States Employment Service, is a union labor employment service and gives preference to the placement of union labor. That statement is made incidentally in connection with the allegation that the Department of Labor, of which the Employment Service is a part is a union labor department, giving preference to union labor. Of course, any employment service that is a union labor employment service and that gives special preference to union labor as against non-union labor, would not meet the employment situation of the United States.

"There are those engaged in industry who are trade unionists. There are those engaged in industry who are non-unionists. I make no hesitancy in saying that I am a trade unionist myself. I believe in trade unionism. I also belong to a church. I belong to some fraternal societies. It doesn't follow that because I belong to a church or belong to a fraternal society that when I become an executive of the Government I would immediately set the machinery of the Government in motion to set up my church as the established church or to exclude all other fraternal organizations from the United States except those that I happen to be a member of.

"It is not a function of any branch of the Government to promote trade unions. It is not a function of any branch of Government to promote corporations but it would be folly to say that because it is not a function of the Government to promote corporations therefore the Government must not deal with corporations, and it is just as much folly to say that because it is not a function of government to promote trade unions that therefore governments must not deal with trade unions.

"Those who are members of corporations, those who are members of co-partnerships, those who are individualists in business, those who are trade unionists and non-unionists, are

all citizens of the United States, and as a governmental agency, the Department of Labor, and the United States Employment Service, can deal with all of them.

"We are authorized by our organic act to promote the welfare of labor and to advance its opportunities for profitable employment. No distinction is made as between the union and the non-union worker in the organic law, and no distinction has been made by the Department of Labor or by its Employment Service in the handling of labor affairs or in the placement of workers, except those distinctions that employers and employees have themselves, by their mutual contracts, made absolutely necessary.

"The one great example that has been used by our critics, in connection with the allegation that we are a union labor department and a union labor service, is that when the demand for ship workers and shipbuilders came from Seattle, our employees in the interior of the country said to those who were applicants for employment that it is not advisable to go to Seattle unless you are either a union man or willing to join the union, and we are held up as a trade union department because we made that statement.

"After the criticism began, we continued to make it. We are making it now. We will continue to make it while the conditions remain the same and the conditions were these: That the employers and the employees in the shipbuilding industry in Seattle had come to an agreement that all people employed in those yards should be members of their respective unions. In other words, they had a closed shop agreement, and if we had, at our instance, caused any man to leave the interior of the country and go to Seattle who was neither a trade unionist nor willing to become a member of the union, only to find when he reached there that he couldn't secure the employment that we had said was available, then we would have been justly subject to criticism and ought to have been denounced from one end of the country to the other.

"Now, on the Atlantic Coast the situation was entirely different. The employers and the employees had no closed shop agreement, and we placed more workers in the shipbuilding yards of the Eastern coast by far than we placed at Seattle and we placed them there without any reference to whether they were unionists or non-unionists. The question was never asked; it was not a condition of employment, and so they were sent to our shipyards on the Eastern coast without any intimation that they would be unable to find employment if they were not trade unionists or unable to become such. That has been our attitude.

"I may go further and say this: That if there was a call for non-unionists coming to the Department we would endeavor to supply the non-unionists if they were available, and the only distinction we would make would

be in the event of there being an industrial dispute. If there was an industrial dispute in existence, we would not be the agency through which labor could be furnished to that industrial dispute. We take this ground with respect to industrial disputes:

"That there is a sufficient supply of labor there if a strike is going on. The labor is competent to perform the work that is required, as has been evidenced by the fact it has been doing it, and to send workers from some other community, however near or far, into a community where there is already a sufficient supply of labor of the necessary skill is simply to create a complication, a surplus of labor, one of the things that is to be avoided, and where a labor dispute is on, it is not a question for our Employment Service to deal with; it is not a matter for it to handle. It is a question for our Conciliation Service to deal with, and when the Conciliation Service has successfully handled the problem, then you have the workers there, ready to go on with the work. That has been our attitude with regard to industrial disputes.

"I have referred to this criticism because undoubtedly you will find it more or less from time to time in your local communities, and I wanted to make clear to you at least what my own attitude is on the matter, at least the manner in which we have been endeavoring to handle the problem from a national standpoint."

GOVERNMENT'S SPELTER STOCKS NOT AS LARGE AS ESTIMATED

Tentative arrangements for the disposition of the War Department's surplus stock of spelter were made at a conference held in the office of the Director of Sales, which was attended by War Department officials and a committee representing the American Zinc Institute.

A complete report was presented by the Government, the figures of surplus shown being considerably less than anticipated by the members of the committee, and it was arranged that the War Department would dispose of its surplus spelter through the zinc committee as representing the producers of zinc. This arrangement will tend to relieve any situation which might arise in the industry from the sale of this property by the War Department itself.

The members of the committee present at the meeting were: W. A. Ogg, president American Zinc, Lead and Smelting Company; Edgar Palmer, president New Jersey Zinc Company; C. M. Loeb, president American Metal Company; Edward Morshauer, Anaconda Copper Mining Company, and S. S. Tuthill, secretary American Zinc Institute. More definite arrangements will probably be made at another meeting to be held shortly.

THINKS SAVING CAN BE EFFECTED IN PRODUCTION OF SPELTER

The zinc industry is confronted with the conditions of a normal domestic consumption of about 300,000 short tons of primary spelter, and a production capacity of over 700,000 tons, which still survives from the period of over-expansion during the war. Various expedients are being discussed for the alleviation of the situation. The American Zinc Institute has proposed to increase the consumption of zinc by developing new uses and advertising the advantages of uses already well known. A prominent metallurgist makes the point that much more is to be gained by lowering the cost of production, from which inevitably will follow increased consumption. He advocates experimentation on a comprehensive scale with various processes which tend to decrease labor and plant costs per ton of product, or which permit the use of ores of lower cost per unit of zinc. Such research work should undoubtedly be done and material advances in metallurgy may confidently be expected from it, but such work is slow, uncertain and costly and will have to be conclusive before capital will be willing to scrap existing plants and build new ones in a period of industrial depression.—Bureau of Mines Minerals Investigations.

TRADE COMMISSION HUNTING OUT FAKE STOCK PROMOTERS

The Federal Trade Commission, cooperating with other government departments to curb the present nation wide activities of fraudulent stock promoters, has sent out searching questionnaires to hundreds of firms and individuals.

Firms are asked to give in detail the extent and nature of their operations and other information designed to establish the character of their business.

EUROPE NOT LIKELY TO BE BIG COPPER BUYER SOON

Individuals who accompanied the members of the Copper Export Association in their survey of the European markets hold forth little promise of an early and considerable demand from that source. The English, French, and Italian governments are reported to hold considerable stock of the metal, said to aggregate in the neighborhood of 400 million pounds. Germany is believed in many quarters to be stripped of copper. Without industrial activity in Europe, which in turn implies a cessation of class warfare and a general restoration to peace conditions, there can, however be no extensive demand for the metal.—Bureau of Mines Minerals Investigations.



Photo by Harris & Ewing

J. O. LEWIS

Petroleum technologist of the Bureau of Mines

Caustic Soda Stocks

A conference was held March 24, 1919, in the Office of the Director of Sales War Department, between representatives of that office and members of the Alkali Section of the Chemical Alliance, in connection with the disposition of the government surplus stocks of caustic soda and soda ash.

Figures were presented by the representatives of the Director of Sales' office showing the approximate quantity of surplus caustic soda to be 4,000 tons and of soda ash to be 2,500 tons. The Alkali Committee stated that these amounts were rather small in comparison with the total normal production and consumption of this country. However, arrangements will probably be made whereby the caustic soda will be disposed of through the manufacturers at manufacturers' current market prices. The details of such an agreement are not entirely complete, but a contract is being drawn to this effect. As a result, no surplus caustic soda will be placed on the market by any of the agencies of the War Department.

It was further decided at this meeting that the 2,500 tons of soda ash could be sold by the Government through the various selling bureaus at current market prices without any effect on the trade.

SOME IMPROVEMENT SHOWN IN MANGANESE SITUATION

There has been marked improvement in the manganese situation during March, although the production is small in amount.

The work done in the Batesville district, Arkansas, is on a small scale and scattering. That there is any production at all is due to the 2,000-ton contract placed with a Pittsburgh company some months ago. No washers are in operation, only hand work being done. It is reported that no ore can be delivered on the Batesville contract until April 1.

There is a revival of interest in manganese mining in Virginia, particularly in the Shenandoah Valley. The Crimora, Kennedy and Stange properties are operating, the Crimora mine having a contract for several months' output ahead.

Little or no work is being done in the Cartersville district, Georgia, although several attempts have been made to reorganize properties on a working basis of after-war conditions.

It is reported that the Tennessee Manganese Company, owners and operators of the East Fork carbonate mine, in eastern Tennessee, are contemplating erecting a 10-ton electric furnace in the Cleveland district, Tennessee. By smelting the ores locally, not only is a saving made in freight rates, but the selling price of the manganese itself, owing to the high degree of concentration, is much increased. This may make it possible to continue the operation of the several manganese properties owned by the company.

Reports from other more or less prominent districts show that practically all operations have been suspended.—Bureau of Mines Minerals Investigations.

WAR DEPARTMENT LEAD STOCKS TOTAL 7,000 TONS

Disposition of the surplus stocks of lead owned by the War Department is being made at current local market prices in the community in which the surplus is held. This surplus is scattered throughout the country and in no one place is there a large quantity.

Reports from the various bureaus show a total amount of 7,000 tons of lead to be in possession of the War Department. This surplus of 7,000 tons represents but a small percentage of the year's production of lead and is not sufficient in quantity to affect the market in any way.

This surplus lead is not being placed on the market in quantity at any one time, but is being sold in small quantities in various places. Instructions issued by the War Department to its selling organization provide for the sale of lead at current market prices.

DEPARTMENT OF PUBLIC WORKS PROPOSED BY ENGINEERS AT CHICAGO CONFERENCE

A Department of Public Works of the Federal Government was indorsed by representatives of seventy-four engineering societies who met in Chicago April 23, 24 and 25. The conference was called by the Engineering Council. As a result of the meeting very active steps are to be taken looking to the carrying out of the plan.

It was decided not to attempt to secure the creation of a new cabinet place. It is expected to be far easier to make over one of the existing departments so as to group together the bureaus whose chief work is of an engineering nature. While not mentioned officially, it is understood that the Interior Department is the one selected for the remodeling. That department already consists largely of engineering bureaus. To it would be added certain other engineering bureaus now under other departmental jurisdiction. The program calls for legislation which will be drafted and submitted to Congress at an early date. The resolution in this particular, adopted at the conference, reads as follows:

THE RESOLUTION

This conference of the delegates from engineering and related organizations respectfully recommends to the public and to the Congress that legislation be enacted covering the following principles:

1. That the services and bureaus of the national Government having to do chiefly with matters of engineering and architecture be grouped in one department, to be known as the Department of Public Works.

2. That the Department of Public Works comprise those works which are built and operated for the use of the public.

3. That the Department of Public Works be made available when desirable for the performance of special engineering and architectural work for the use of other government bureaus.

4. That there be a systematic classification and organization of engineers, architects and other employes, whose status shall be such that they may be recruited and maintained on merit.

J. Parke Channing, of New York, a mining engineer of international reputation, who is the head of the Engineering Council, made the opening address. His remarks follow:

MR. CHANNING'S REMARKS

"This is the latest of a large number of conferences called together during the past half century for the purpose of considering and prosecuting a plan for a national Department of Public Works.

"The plans wrought by previous confer-

ences have in many cases been admirably conceived, but they have come to naught for several reasons, the controlling one being that the engineers, architects, builders and constructive thinkers of the country have not given united support and have exerted no strong and persistent push behind the movement.

"This conference is in many respects the greatest that has ever been brought together to consider an engineering project, being a conclave of seventy-six organizations representing a total strength of 100,200 men, not mere idealists and exhorters given to the exploitation of intangible ideas, but practical flat-footed men, who knew what they want and are accustomed to achieve. When we say that this is the latest of a series of conferences we hope that, if we are of determined mind, this conference is the last *that will be needed*.

"The last few months have created new conditions and emphasized new necessities, we shall never again tread the paths we trod two years ago; that the changes and reforms that we consider merely desirable then have become the real necessities of the present; that in the present and future urgencies and complexities our Government and our people can, if they would survive, tolerate only those methods and policies that are the most efficient, most business-like and most purposeful and must tear asunder from those which, however old and revered, are but the expedients of a former time inadequately expanded to render present-day service.

"Our Government has become the greatest industrial plant in all history—investigating, surveying, building and operating—and its various functions are being conducted with practical independence one with another, and with so little coordination and so complete a lack of common purpose that practically the only occasions when the various elements become conscious of each other is when they overlap and attempt to crowd each other off the map; that any private or corporate business conducted according to the methods of government would speedily become bankrupt and would deserve such fate. There are twelve federal organizations engaged in making surveys, more than a score in chemical investigations, some of them competing and quarreling for preference under the same departmental roof. In the Congressional Directory there are listed twenty-nine bureaus and agencies of Government engaged in construction of one or another kind. Four government departments are engaged in fuel tests, while four government bureaus are maintaining coast fleets, each independent of the other.

in the same waters, and engaged on work that has so many points of contact that not one person in twenty realize that they are separate. These are only a few illustrations of a condition which can be tolerated by no considerate person.

"We have come together, each qualified in his own line, to render service to the people, to point out the wastes and extravagances, the chaos and inefficiencies and to offer some sane and practical solution to the country, so practical and so self-evident that it will carry its own conviction. To do this it will be necessary for each delegate to bear an open mind, and, while expressing freely the convictions that are his, to take part in that mutual concession which alone can bring concerted action among full-grown men.

"The Engineering Council has invited these conferees to meet for a common purpose and extends welcome, but it does not seek to dominate the deliberations, not even claiming the right to send a voting delegate. As chairman of the council I merely call the conference to order and preside until it effects its own organization and thereafter seek only to help in carrying out the plans determined upon."

MR. MOORE SPEAKS

Philip N. Moore, former president of the American Institute of Mining Engineers, in his address to the conference, said:

"Crowded hours of the committee chairman, whom the speaker represents, with possibly the desire on his part to flatter his colleague, a not uninterested worker for the establishment of his useful committee, must serve as reason for the appearance of the speaker.

"For a generation the dream of the civil engineers of this country, using the word in its ancient contrast with the first known form of the profession, represented by our military brethren, has been that one great department of our executive government, under the trained control of an experienced engineer, might achieve charge of all the non-military engineering tasks of the nation. Time and again great engineer presidents, from their official pedestals, in salutatory and valedictory, have voiced this vision. Time and again, civilian subordinates doing civil engineering work under military domination, have raised their protests and complaints in the professional press and at our gatherings.

"But, due to increased specializing of the profession and the engineer's desire, after he differentiated himself, to foregather with his colleagues, he has multiplied societies and, while increasing their dividends to himself in personal acquaintance, relative influence and gratified vanity, he has not built up any organization with sufficient political potency to achieve in legislation the ideals of the profession.

"Of the merits of some plan that shall co-ordinate the vast engineering activities of the

United States Government which now function through a dozen or more bureaus, directed by six secretaries, under one head, there will probably be in this meeting few opponents.

"That opponents will be found elsewhere, fortified in power, we who favor shall soon realize.

"Never before were conditions so favorable for realization of this ideal.

"Reconstruction is a common thought and word. Engineers have borne a great and honorable part in the closing contest. Never before have their services been so publicly and generally recognized. Never before has there been so keen realization of the complexity and unsystem of engineering bureaus of the Government. Bureaus which in the past have competed with one another and grasped jealously for new activities and accompanying appropriations, now approve a more logical system, while realizing that unification must leave some heads without bureaus.

"More than two years ago the United Engineering Society, representing the four great national bodies of the profession, with headquarters in New York, established a committee representative of all four, to deal with all public matters affecting the engineering profession at large, to be called the Engineering Council. That council, serving at first as a convenient referee for all the crank propaganda which came to the founder societies, and spending hours of its supposedly valuable time in saying 'no' to impossible propositions, limited in its constructive work by financial resources so narrow that it could scarcely buy a new broom with which to sweep the ancient cobwebs from the windows of the engineering structure, where they had been accumulating since the days of Leonardo di Vinci, at last determined on a constructive task of the first order.

"There was established a national service committee, with headquarters in Washington, for the purpose of finding opportunities of service to the nation on the part of the organized profession.

"It chose its first task—the establishment of a National Department of Public Works. Such action has, of course met criticism. Particularists unfortunately abound among engineers. Possibly the intense specialization of our training inevitably leads that narrow way; but one of the penalties thereof, equally inevitable, is restricted vision. Disregarding such protests in the interest of the profession at large (enabled by the generous and broad-minded underwriting of one of our far-sighted brethren), the National Service Committee is functioning.

"Its first effort to that end is the gathering to which I have the honor of speaking. If I be not mistaken, it is more representative of the profession than any hitherto assembled. Upon its decisions, and upon the support of the societies which it represents, will depend the speed at which we achieve our object.

The Engineering Council seeks support of the entire profession throughout the nation. If the unanimously expressed will of the council be followed by the founder societies, it will offer membership to every dignified recognized engineering society in the United States, and thereby become the true and powerful voice of the profession.

"If we undertake it, forget not, gentlemen, that our task will be successful in direct proportion as it is patriotic and unselfish, and that results which may come to the profession, of dignity, of national recognition, and of reward, will come more surely if we conduct our campaign with dignity and unselfishness. The Engineering Council has opened the way. It has undertaken the task; it has climbed the barbed fence of false ethics, and has put the profession squarely into the great field of national policies, or, if you choose to call it, national politics. In that field grow thorns and briars, as well as good grain. The Engineering Council has put the hand of the profession to a new plow. It will not look backward; it will plow no crooked furrows. Some of them may be shallow; some of them may be faulty; but from that field, unless the speaker is mistaken, gentlemen, there will come a harvest of efficient grain, which, but for the service of the profession, would never have been planted.

"Upon you, gentlemen, and on those whom you represent, will rest the result. From you must come the power which keeps that plow in the furrow. Without your support the tough clay of poverty, or the ancient stumps of professional particularism and conservatism may halt it.

"Unless your speaker be a false prophet, it can be halted only for a time. Under some other impulse the action will be renewed. Coordination and simplification of the present complex situation in national service must come in the end. It can be delayed. It cannot be stopped. It is inevitable. It were better for the honor of the profession, for our own self-respect, that we, and we alone, carry it through. In your hands, gentlemen, the task abides. To its discussion, broad-minded and without selfishness, the National Service Committee invites you."

DR. WILLOUGHBY'S VIEWS

During the course of the meeting Prof. F. H. Newell presented a letter containing the following views of Dr. W. F. Willoughby, director of the Institute for Government Research, Washington, D. C. Director Willoughby in his letter called attention to the fact that the views expressed represent only his personal thoughts on the subject:

"1. It is highly desirable that the services and bureaus of the National Government having to do with engineering matters should be grouped in one department and that this department should be exclusively one devoted to engineering work.

"2. The distinction between public works, that is, works such as the Reclamation Service and the Alaskan Engineers' Commission, which has for its purpose providing facilities for the use of the public, and government works, that is, the construction of buildings and other special engineering tasks for the use of the Government itself.

"3. The Department of Public Works or Engineering, however it is termed, should comprise at the outset, at least, only services engaged upon public works of the first character. It would, I think, be a great mistake and certainly a strategical blunder to attempt to bring into existence a separate department that would take over all engineering work that has to be done by all of the several services of the Government. Such a proposition would meet with immediate opposition from almost every service affected. The mere fact that the Forestry Service, or the Indian Service, has to have done for it work of an engineering character is no valid argument for placing those two services in a Department of Public Works.

"4. It would be quite feasible, however, that the Department of Public Works, in addition to being a department for the direct operation of public works services, such as the Reclamation Service and the Alaskan Engineering Commission, should also constitute a contracting agency, whose services might be availed of by other services of the Government for the performance of engineering work for them. Thus, for example, the Indian Office, while not a subordinate service of the Department of Public Works, could make use of the department as a contracting agency to do work for it.

"5. Care should be taken in providing for a Department of Public Works to make plain that there is no intention at the outset to consolidate the several services that would be transferred to such department. Each should be left its individual autonomy and personnel such as it possesses at the present time. The proposal, in other words, is one of grouping of services and not of consolidation. After the services are grouped under the Department of Public Works a certain redistribution of duties and common use of plant, organization and personnel will naturally develop.

"6. Provision should be made in taking steps for the creation of a Department of Public Works for the establishment of a hierarchy of engineers; that is, a classification of the engineers running all the way from apprentice or junior assistant engineers up to the chief engineer. This service should be permanent, be taken wholly out of politics, and be given a status as near as possible similar to that of officers in the Army and the Navy, or of surgeons in the Public Health Bureau of the Treasury Department. It should constitute a distinct career.

"7. A strong argument in favor of such a

department and such a unified engineering personnel is that such a department and personnel would be an exceedingly important measure of military preparedness. It would, in effect, mobilize the engineering plant and personnel of the Government for both peace and military purposes. Had such a department been in existence when we entered the war it would have been possible rapidly to have expanded its organization and thrown its full resources to meeting the engineering problems other than those dealing technically with military fortifications and works, which would have been handled by the army engineers. Of course, this would have meant that the ordinary peace work of the department would have been stopped in large measure for the time being, but such a curtailment of activities is necessary on the part of all government services during a great war.

"8. It is highly important that the Department of Public Works should concern itself exclusively with works of a civil character. Under such conditions our engineering works of a military character should be cared for by the military engineers, with the exception that the War Department could make use of the Department of Public Works as a contracting agency to do work for it if it desired to do so. I think this is right in principle. Anyhow, if there was any suggestion that this department was to have any direct authority in respect to military work, the proposition for its creation would meet with such opposition as certainly to defeat it.

"9. Finally, the establishment of a Department of Public Works would promote greatly the movement for the creation of a national budget. One of the most important motives lying back of the demand for a national budget is that more systematic provision should be made for adopting a general works program. Such a general program can only be effectively formulated where there is a single department having general responsibility for determining what should be done and of subsequently putting into execution the determinations arrived at."

Those present and the societies which they represented are shown by the following:

THOSE ATTENDING

W. L. Abbott, American Society of Mechanical Engineers; W. C. Armstrong, Engineers' Society of St. Paul, Minnesota Surveyors and Engineers' Society; Warwick M. Anderson, Engineers and Architects' Club of Louisville; Bion J. Arnold, Society of Automotive Engineers (alternate, J. R. Bibbins); A. S. Baldwin, American Society of Civil Engineers; J. R. Bibbins (alternate for Bion J. Arnold), Society of Automotive Engineers; W. D. Blair (alternate for Irving K. Pond), American Institute of Architects; E. G. Bradbury, Engineers' Club of Columbus and Ohio Engineers' Society; Baxter L. Brown, Engineers' Club, St. Louis; Charles Brossman,

Indiana Engineers' Society; Webster B. Bushnell, Engineers' Club, Quincy; J. P. Channing, Mining and Metallurgical Society of America; H. H. Clark, Illinois Gas Association and American Steel Treathers' Society; Louis Clousing, Engineering Club, Minneapolis; E. K. Copeland, American Institute of Mining Engineers; W. W. DeBerard, Engineers' Committee, Chicago Association of Commerce; George C. Dent, Society of Industrial Engineers; F. W. DeWolf, American Association of State Geologists; C. E. Drayer, National Drainage Congress; W. H. Emmons, Geological Society of America; Frederic H. Fay, Boston Society of Civil Engineers; W. H. Finley, American Association of Engineers; H. G. Gardner, American Society Refrigerator Engineers; Lloyd O. Goble, Society Construction of Federal Buildings; Samuel A. Greeley, American Public Health Association; W. B. Gregory, Louisiana Engineering Society; C. E. Grunsky, Pacific Association Consulting Engineers; R. B. Harper, American Gas Association; Charles H. Hammond, Illinois Society of Architects; James N. Hatch, Structural Engineers' Association, Illinois; John L. Harrington, Engineers' Club, Kansas City; W. K. Hatt, American Concrete Institute; Edward Haupt (alternate for W. A. Rogers), Association of General Contractors of America; James Herron, Cleveland Engineers' Society; C. J. Hogue, Oregon Society of Engineers; W. H. Hoskins, American Institute of Chemical Engineers; W. O. Hotchkiss, American State Highway Commissioners; W. H. Hoyt, Engineers' Club, Northern Minnesota, and Duluth Engineers' Club; W. G. Kaiser, American Society of Agricultural Engineers; Lewis H. Kenney, Engineers' Club, Philadelphia; Frank B. Knight, Brooklyn Engineers' Club; E. H. Lee, American Railway Engineers' Association and Society of Terminal Engineers; D. B. Leighton, Scientific Club, Indianapolis, and Indiana Engineering Society; C. H. Mayer, Swedish Engineers, Chicago; Leonard Metcalf, American Water Works Association; E. L. Millard, American Civic Association; F. H. Newell, Washington Society of Engineers; A. T. North, New York Society of Architects; C. E. Paul, National Lumbermen's Manufacturing Association; E. T. Perkins, Illinois Society of Engineers; Irving K. Pond (alternate for W. D. Blair), American Institute of Architects; Willard F. Pond, Rochester Engineers' Society; W. B. Powell, Engineers' Society, Buffalo; Isham Randolph, Franklin Institute of the State of Pennsylvania and Western Society of Engineers; A. M. Richter, Indiana Limestone Quarry Association; Walter A. Rogers, Association of General Contractors of America (alternate, Mr. Haupt); W. F. Schulz, Memphis Engineers' Club; E. C. Shankland, American Institute of Consulting Engineers; C. E. Skinner, American Institute Electrical Engineers (alternate, Mr. Taylor); Lloyd B. Smith, Kansas Engineers' Society; Julius

Stieglitz, American Chemical Society; John B. Taylor (alternate for C. E. Skinner), American Institute of Electrical Engineers; F. W. Ullius, Engineering Society of Wisconsin; F. A. Vaughn, Illuminating Engineers' Society; B. C. Wheeler, Portland Cement Association; G. S. Williams, Detroit Engineers' Society; Mr. Winchell, American Institute of Mining Engineers; Sylvester N. Williams, Iowa Engineering Society; E. J. Mehren, *Engineering News Record*; Lloyd Orr Goble, Society of Constructors of Federal Buildings; A. N. Talbot, C. E. Skinner, A. M. Lockett, Ira N. Hollis, Charles B. Burdick, Philip N. Moore, M. E. Cooley, N. A. Carle and M. O. Leighton, Engineering Council.

CONTINGENT FEE CLAUSE IN CONTRACTS IS CHANGED

Walker D. Hines, Director General of Railroads, announced April 15 that, with the approval of Attorney General A. Mitchell Palmer, he has consented to a modification of the covenant inserted in purchase contracts under the direction of the Department of Justice issued June 18, 1918, prohibiting the payment to agents of fees contingent upon the procuring of contracts with the Government in so far as it relates to railroad contracts.

Since this order was promulgated by the Attorney General, there has been a good deal of complaint from railway supply houses that its provisions were working a hardship upon them and that the Government itself was losing the benefits of a system which, previously, had proven both economical and satisfactory in every particular.

Hereafter the Attorney General's order will not affect contracts made between the Railroad Administration and supply houses which, previous to government control, carried on their business through bona fide selling agencies.

At the suggestion of John Barton Payne, general counsel for the Railroad Administration, the following clause will be inserted in appropriate cases in future railroad contracts:

"Provided, however, that this covenant shall not invalidate a contract obtained through a bona fide commercial representative employed under a general contract covering designated territory and shall not prohibit or penalize the employment of the same agencies, rates and methods of compensation in dealing with the United States heretofore customarily employed by the contractor in the regular course of his business in similar dealings with the railroad corporations."

This step is understood to have been taken after George H. Cushman, of the American Wholesale Coal Association, had shown railroad administrative officials that the old contingent-fee clause worked a decided hardship on the coal industry.

SECRETARY LANE WANTS WORK ON TOPOGRAPHIC MAP PUSHED

An annual expenditure of \$1,000,000 on the topographic map of the United States is justified, in the opinion of the Secretary of the Interior. This and other interesting points with regard to topographic plans are made by Secretary Lane in a letter to M. O. Leighton, of the Engineering Council. Mr. Leighton had written the Secretary, calling attention to the essential relation of the topographic mapping of the country to good engineering and the economic development of our resources. In replying, Secretary Lane said:

"The Geological Survey now has available a trained personnel sufficient to permit a large expansion of the Government's activities in topographic surveys. This increase in number of topographic engineers is a happy by-product of the assistance rendered the Army by the Department of the Interior. A summer school was established for training young engineers in military mapping and every method adopted to furnish the Engineer Corps with officers for this specialized service both overseas and in this country. Most of the men so trained are now available to supplement the regular topographic force of the Geological Survey, the members of which are also now returning to their civilian status. For this reason, an annual expenditure of \$1,000,000 on the topographic map of the United States is now justified both by the public needs and the ability of this Department to perform this work economically and effectively. In such a program it is hoped that the states might increase their cooperative contributions to \$500,000, especially as the cooperation for the two years past was necessarily interrupted by the military mapping being largely confined to a few border states. I am told that in several states the officials are now urging the completion of the cooperative mapping of their states within the next few years.

The readjustment of the appropriations for topographic work as between the Department of the Interior and the War Department is not yet complete, but my recommendation to the 65th Congress was for the restoration of the appropriation item for topographic surveys under the Geological Survey to the pre-war figure of \$350,000, and my present purpose is to submit a supplemental estimate to the 66th Congress, increasing this to \$500,000.

Many Copper Properties Close

With prevailing quotations for copper and under existing prices of labor and supplies, many of the less favored companies are either operating at a considerable loss or else have shut down, others have no margin of profit. This in spite of recent wage reductions and reported increase efficiency of labor.—Bureau of Mines Minerals Investigations.

STOCKS OF COAL CONTINUE

LARGE—THE SITUATION IN DETAIL

Stocks of bituminous coal in the hands of industrial concerns, the iron and steel industry and public utilities, gas and electric, declined 25 per cent or about 8,000,000 tons in the three months from January 1st, to April 1st, 1919 according to information collected by the Bureau of Statistics and made public by the United States Fuel Administration. Stocks of bituminous coal in the yards of retail coal dealers were 40 per cent less on April 1 than on January 1, but dealers had on hand April 1 a quantity of bituminous coal one fourth as great as was sold and distributed in the first three months of this year. Such stocks in retailers' yards are considered large for April and are the result of the large accumulations last summer and fall and of lack of demand the past few months of open winter weather.

The decrease in stocks of bituminous coal in the hands of consumers, including the railroads, in the United States the past 3 months probably did not exceed 16,000,000 tons. The drop in production of bituminous coal in the same period was 31,000,000 tons compared with January, February and March of 1918.

In proportion to his needs the small consumer last year was the most successful in accumulating a supply of coal and by the first of last November every nook and corner of the country was piled with bituminous coal. The small industrial user using a car of coal or less a month, represents in numbers 75 per cent of the total and but 11 per cent of the consumption. These consumers had on hand last fall 14 per cent of the bituminous coal in storage, on the average of 20 weeks supply, as compared with the largest users with 7 weeks supply.

With a large supply on hand and the fear of a coal shortage removed, and because of the let down in manufacturing activity following the armistice and the mild winter, this class of user has been out of the market and will not again seek coal until next fall. Contributing also to the decline in demand has been a decrease in the rate of consumption of coal—for industrials other than the iron and steel, the decline is indicated by a drop of 10 per cent in the average weekly consumption of bituminous coal in January, February and March compared with the latter part of December.

INDUSTRIAL STOCKS OF COAL.

As indicating the sections of the country where abnormally large stocks were accumulated it is noted that the storage piles of industrial plants in Delaware, Texas, Mississippi, South Dakota, Wyoming, and Nevada were reduced more than 50 per cent from January 1 to April 1. More significant, however, is the decrease of from 40 to 50 per cent in stocks in the region about the Lakes, Wisconsin, Minnesota, Michigan, both upper and lower, Texas, Missouri and Ohio. The same decrease is

reported from Georgia, Maryland and Oregon.

Decreases in stocks of from 30 to 40 per cent are reported for New England and New York in the northeastern section of the country, in South Carolina, Kentucky, Illinois and Arkansas in the Southern and Central States and in North Dakota. Decreases of from 20 to 30 per cent are recorded in Pennsylvania, New Jersey, West Virginia, Indiana, Louisiana, Montana, Utah and Washington.

Virginia, North Carolina, Tennessee, Alabama, Florida in the South, and Nebraska, Kansas, Oklahoma, Colorado, New Mexico and California in the western part of the United States report decreases in stocks of bituminous coal from 10 to 20 per cent. In Idaho and Oregon the quantity of bituminous coal in storage was not materially changed.

From Pennsylvania and Maryland in the East to Kansas and Nebraska on the West and in the Mississippi Valley south to the Gulf, excluding the State of Mississippi, but including Florida, stocks in the hands of industrials are sufficient for from 3 to 5 weeks. New England reports from 11 to 15 weeks, except New Hampshire with 20 weeks, New York 9 weeks, New Jersey 8 weeks, and Delaware 7 weeks. Stocks in the South Atlantic Section range from 6 weeks' supply in Virginia to 9 weeks in North Carolina, Georgia and South Carolina having 7 and 8 weeks respectively.

The lower peninsula of Michigan has 7 weeks supply, Wisconsin 6 weeks and Minnesota 10 weeks. West of the Mississippi stocks range from 3 weeks in Washington to 14 weeks in Oklahoma.

PUBLIC UTILITIES

In about one-third of the states east of the Mississippi the stocks of steam coal in the hands of public utilities increased from January 1 to April 1. Georgia in the south with an increase of 20 per cent, and Indiana, Kentucky, Ohio, West Virginia, Virginia, Maryland, Delaware and Pennsylvania in the central-eastern section, with increases in stocks ranging from 10 per cent in Kentucky to 125 per cent in Delaware, were the states reporting increases. In the northeastern part of the country the decreases in New York and New England were small, from 3 to 20 per cent in the south the largest decrease was 44 per cent in North Carolina. The largest decreases, more than 50 per cent, were in Wisconsin, Minnesota and South Dakota.

In the aggregate the stocks of bituminous coal held by public utilities decreased but 3 per cent, the decreases in some states having been offset by increases in others.

Coal for gas-making in the hands of city gas plants decreased 16 per cent in the three months ended April 1. Increases in stocks of gas coal were reported in New Jersey, Pennsylvania, Maryland, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Indiana, Michigan and Washington.

RETAIL DEALERS' STOCKS

Stocks of anthracite in dealers' yards were greater on April 1 than on January 1 in four of the New England States—Maine, New Hampshire, Massachusetts and Rhode Island—also in Ohio, in all states south of the Ohio River and east of the Mississippi, in Illinois, Iowa, Missouri and North Dakota. The only states east of the Mississippi to report decreased stocks of anthracite in dealers' yards are Vermont, Connecticut, New York, Pennsylvania, Maryland, Delaware, Indiana, Wisconsin and Minnesota. New Jersey and West Virginia report no change in quantity on hand.

Excepting only Alabama, Montana and Idaho, every state reported decreases in stocks of bituminous coal in dealers' yards. Notwithstanding this, the quantity of bituminous coal on hand April 1 was equal to one-quarter the total sold and distributed in the three months preceding.

IRON AND STEEL INDUSTRY

Stocks of bituminous coal held by plants engaged in the manufacture of iron and steel decreased 24 per cent from January 1 to April 1. The largest decreases were in coal for use in by-product coke ovens, 31 per cent decrease in stocks of high volatile and 33 per cent in stocks of low volatile. Gas coal stocks decreased but 6 per cent and steam coal stocks 17 per cent. The stocks of high-volatile by-product coal on April 1 were sufficient for nearly three weeks' operation, those of low volatile for four weeks. Stocks of gas coal were sufficient for six weeks and of steam coal for seven weeks.

Stocks of gas coal at steel plants in Pennsylvania were increased from January to April by 250 per cent, but in all other states were decreased. Excepting Alabama, stocks of steam coal were decreased in all states. New York, Pennsylvania, Michigan and West Virginia reported slight increases in stocks of high-volatile by-product coal, but decreases in low volatile; in other states reductions in storage of both grades of by-product coal were the general rule.

COKE

The production of coke, both by-product and beehive, in January, February and March, 1919, is estimated at 12,738,700 net tons, an increase of 307,000 tons, or 2.5 per cent, compared with the first quarter of 1918. By-product coke increased from 5,321,000 tons in the first quarter of 1918 to 6,779,500 tons in the first quarter of 1919, a gain of 27 per cent. Beehive coke recorded a decrease from 7,110,500 tons in the first quarter of 1918 to 5,959,100 tons the past quarter, a drop of 16 per cent. The transition from beehive to by-product is indicated by the increase in the capacity of by-product ovens completed, from 6,793,251

tons on April 1, 1918, to 8,576,489 tons on April 1, 1919, an increase of 26 per cent. Since April, 1918, production of by-product coke has been begun in Colorado and in Rhode Island, and considerable increases in capacity have been made in Maryland, New York, Ohio, Pennsylvania, Tennessee, West Virginia, Wisconsin, Alabama, Illinois, Indiana and Kentucky.

The decrease in the production of beehive coke in the first quarter of 1919 compared with 1918 in Pennsylvania was 5 per cent, as against a decrease of 40 per cent in all other states.

LOUISIANA LOSES MONOPOLY
LONG HELD ON SULPHUR

The United States Circuit Court, sitting at Philadelphia, has dismissed the infringement suit of the Union Sulphur Company vs. the Freeport Sulphur Company. The court held that the Frasch patent lacked inventive substance. This decision will have an important bearing upon the future development in the Louisiana-Texas field.

The second noteworthy event was the announcement, on March 19, that the first well of the Texas Gulf Sulphur Company was put in operation, producing at the rate of about 400 tons per day.

It is reported that the two large operating companies in the Louisiana-Texas region are adding to the already large stocks of sulphur above ground, thus indicating that consumption is even less than present rate production, which has been curtailed by 50 per cent or more.—Bureau of Mines Minerals Investigations.

Lehigh Coal Case

The Government has filed its brief in the Supreme Court of the United States in the case of United States vs. Lehigh Coal and Navigation Company, a company engaged in mining and shipping anthracite coal near Mauch Chunk, Pa. The prosecution was begun in 1915, against the coal company for receiving rebates, aggregating about \$400,000 a year, from the Central Railroad Company of New Jersey, out of the Lehigh region rates on anthracite coal. The railroad was previously convicted. The coal company was convicted in the district court. The alleged rebates had been paid for a long period, being referred to in recent years as "lateral allowances," a term meaning an allowance for service rendered by a shipper in connection with the transportation of its shipments. The Government contends that these "allowances" were not made for any such services, but were unlawful rebates out of the published Lehigh region rates for the benefit of the coal company.

COPPER PRODUCERS TO DISPOSE OF GOVERNMENT'S SURPLUS

An agreement has been reached whereby the United Metal Selling Company, representing the copper producers, will sell for the War Department approximately 100,000,000 pounds of copper and also whatever amount of copper scraps the War Department has to dispose of. Not less than 5,000,000 pounds of copper will be delivered by the United States to the copper producers each month for a period of ten months, and then 10,000,000 pounds of copper per month will be delivered for a period of five months.

It was further agreed that the amounts delivered to the copper producers would be at least 10 per cent of their total sales, and in the event of good market conditions the copper producers would take in excess of this amount. The copper will be sold by the copper producers at market prices as determined by the average published quotations. A small consideration will be allowed the copper producers in marketing the copper for the Government to cover expenses of sales.

Arizona Legislation

There were only two bills passed by the fourth legislature of the State of Arizona relating to mines and mining, one of these bearing upon mines and the other upon smelters.

House Bill 169.—Introduced by Mr. Richards, of Navajo County. "An act to amend Section 4032, Chapter 1, Title XXXIV, Revised Statutes of the State of Arizona, Civil Code, 1913, relating to mines and mining."

This act passed the House March 11, 1919, without division, and on the following day passed the Senate also without division. It amends the Civil Code of 1913, Section 4032, to read as follows:

"Such surface boundaries shall be marked by six substantial posts projecting at least 4 feet above the surface of the ground, or by substantial stone monuments at least 3 feet high, to wit: one at each corner of said claim and one at the center of the end line thereof; provided, however, that when the point of a monument of a mining claim is at the same point and coincides with a monument of a survey of the United States, the monument of such government survey shall be and is hereby declared to be a mining claim monument of claims heretofore or hereafter located."

The above act was approved by the Governor March 20, 1919.

House Bill 52.—Introduced by Mr. Vyne, of Yavapai County. "An act to conserve the public health by compelling all smelters, refineries, foundries, engaged in the reduction or treatment of ores and metals, and all cement mills and ore-reduction works in which

oils, acids, quicksilver or cyanide is used, to install adequate change rooms, water-closets, wash-rooms and bath-rooms; providing for the enforcement of this act and providing a penalty for the violation thereof."

This act passed the legislature on the last day of the session. It provides that suitable and proper bath-rooms, wash-rooms and water-closets shall be supplied by the owner or operator of any smelter, refinery or foundry engaged in the treatment or eduction of ores or metals. One shower-bath shall be provided for every ten men employed in such establishment, with adequate additional wash-room facilities. It provides that every such establishment enumerated shall maintain and equip a heated change-room immediately contiguous to such establishment. The enforcement of the provisions of this act are declared necessary for the maintenance of the public health, and the Superintendent of the State Board of Health is charged with the enforcement of its provisions. Penalty for violation shall be a misdemeanor punishable by a fine of not less than \$50, nor more than \$300, or by imprisonment in the county jail for not less than ten days nor more than sixty days, or by both such fine and imprisonment.

Among the number of bills relating to mining introduced, but failed to pass, might be mentioned the following:

House Bill 49.—Introduced by Mr. Harry T. Sealey, of Cochise County. Creating and establishing a State Hospital for Miners.

House Bill 19.—Introduced by Mr. Waters, of Mohave County. Providing for blasting by electricity.

House Bill 63.—Introduced by Mr. Waters, of Mohave County. Fuse-timing bill.

House Bill 41.—Introduced by Mrs. McKay, of Gila County. Penalizing and licensing employment agencies.

House Bill 48.—Introduced by Mr. Waters, of Mohave County. Regulating private detective agencies and providing means of identification of detectives.

House Bill 70.—Introduced by Mr. Delbridge, of Cochise County. Amending the Mining Code.

House Bill 74.—Introduced by Mr. Waters, of Mohave County. The 100 per cent English-speaking bill (similar to old Kinney bill).

Senate Bill 52.—Introduced by Senator Claridge, of Graham County. Compulsory arbitration.

The Governor in his message recommended that some action be taken by the legislature towards the appointment of a commission to investigate and report back to the legislature a workmen's compensation bill for injured workmen, but in view of the attitude of organized labor, no effort was made to get a compensation measure or a commission to report upon a measure during this session.

CARELESSNESS IN HANDLING EXPLOSIVES WAS WIDESPREAD

The possession of dangerous explosives by irresponsible and criminal persons, which has been a constant menace to the nation, will soon be a thing of the past, according to a report submitted to the Secretary of the Interior by Van H. Manning, director of the Bureau of Mines, in reviewing the enforcement of the explosives regulation act during the war. This act, which was passed as a war measure, and which was meant to keep explosives out of the hands of dynamiters, bomb-throwers and alien enemies with evil intent, will cease operation upon the ratification of peace by the Senate. Its operation, according to Mr. Manning, disclosed the fact that any criminal could obtain any quantity of death-dealing explosives desired for any diabolical aim with very few questions asked of him as to his purposes. A few of the states had regulations attempting to cope with such a situation in peace times, but as a rule they were not as effective as they should be. Now, with the experience of the working of this federal act, in which every person using explosives was compelled to take out a license, giving under affidavit the purposes for which the explosives were desired, some of the states, in anticipation of the suspension of this act, are busily engaged in creating new and more effective laws governing the use of explosives and in strengthening the old laws on their statute books.

"From the interest now being taken in explosives matters throughout the country, and especially by the various state legislatures," said Mr. Manning, "I expect to see wide-sweeping reforms which will safeguard the lives of our citizens better than ever before. That the country will always have some evil-minded people whose bent is toward the destruction of human life or property is evident from the many violations of the law during the period of the war. One enemy alien, whose purpose was the destruction of a fellow-citizen, and who was fortunately caught before he had an opportunity to commit his crime, had in his possession a nefarious bomb which it had taken him two months to make because of the difficulty under the federal law of obtaining the powder. Unable to buy powder as formerly he went to different stores and purchased at each a number of small-arms cartridges, cut them open and used the powder in them to make the bomb. This miscreant was properly punished. This one of many violations of the law, even under the strictest regulations the country ever had, shows the urgent necessity of stronger state laws and a more vigorous enforcement of their provisions,

and I am, therefore, glad to see the renewed interest along these lines by the states.

"At the same time, I hope that the states will make more stringent regulations governing powder magazines, their location and their proper construction. In our investigations we found thousands of instances where explosives were stored in the most careless manner, subject to easy theft, and located in magazines in such close proximity to inhabited buildings, public highways and railroads that their presence was a constant menace. Quantities up to 10,000 pounds in a single magazine have been found in the heart of a town, which condition, had an explosion occurred, would have resulted in inevitable loss of life and property. The Bureau of Mines has had reported to its officers more than 8,000 powder magazines in the country, the owners of which have in many instances availed themselves of the recommendations of the bureau for better locations and better and safer construction. The bureau will continue to give its best advice on matters of this kind, but this will be a voluntary service and will have nothing in particular to do with the explosives-regulation act, which ceases operation with peace. From what has already been accomplished, I expect a great reform in the practice governing powder magazines and consequently a much nearer approach to safe conditions for the people of the country.

"As far as the miners of the country are concerned, and in them the Bureau of Mines has possibly its greatest interest, the enforcement of this act has brought about a notable reform which I earnestly hope will be carried into peace. In the mining districts of many states the miners in the past have not only had free access to explosives, but have made it a common practice to carry the explosives to their homes, often in the thickly populated mining towns. This was especially prevalent in the winter time, when the miners took the explosives home for the purpose of thawing them. It was not an uncommon occurrence to find from 50 to 80 pounds of explosives in a single miner's lodging house, and it was not uncommon to have these houses blown up with all the occupants slain.

"In the States of Kansas and Alabama about 80 per cent of this pernicious practice has been done away with through the cooperation of the coal operators in buying and selling the explosives to the men at the mine, thereby reducing the necessity of carrying this danger to their lodging houses. In other states great progress is being made in this and the result will be the saving of many lives."

PERSONALS

Lieut. Col. John C. Greenway, of the 101st Infantry, has been awarded the distinguished service cross for extraordinary heroism in action near Bois de Warville, France, on October 2, 1918.

The Edison Storage Battery Company, Orange, N. J., has a new price list, effective March 1, 1919, reducing the price of type A, B and G. Edison cells approximately 16 per cent. This company is also boosting prosperity by using the slogan, "Procrastination murders industry—stir things up!"

The California State Mining Bureau, Fletcher Hamilton, state mineralogist, has issued a most valuable publication upon the quicksilver resources of California in their Bulletin 78. The book is beautifully bound and printed, being profusely illustrated, and carrying a list of quicksilver properties alphabetically by counties. Interesting discussion is given regarding the metallurgy concentration and bibliography of quicksilver. Numerous maps, in colors, of the various properties are also shown.

The E. I. duPont de Nemours & Co. recently announced the appointment of Mr. E. R. Galvin as manager of the sporting powder division, to succeed Mr. Doremus, who has been transferred to Shanghai, China, as eastern manager of the E. I. duPont Export Company.

George L. Pratt, of Atlanta, Ga., was in Washington several days during the month.

W. L. Gazzam, of Seattle, Wash., has returned to his home after spending several weeks in the East.

R. S. Ellison, governor of the Colorado Chapter, The American Mining Congress, has returned to his home, Denver, Colo., after several weeks' stay in the East. Mr. Ellison is general attorney for the Mid-west Refining Company.

The Ohio Brass Company, Mansfield, Ohio, has issued its new catalog No. 17, descriptive of high tension porcelain insulators, overhead materials, rails, car equipment, etc. It is beautifully bound and printed, with cuts of all articles sold and diagrams showing their operation.

The Jeffrey Manufacturing Company, Columbus, Ohio, recently issued catalog No. 210. It deals with chains, elevators and conveyors, loaders, crushers, shredders and screening

machinery, coal cutters, locomotives, tippie equipment and ventilating fans. It is profusely illustrated and carries a number of blueprints showing the workings of their various equipment. They also have issued catalog No. 245, describing the Jeffrey type A shredder. Either may be obtained upon request.

The Southwestern Engineering Company, Los Angeles, Cal., have issued an interesting catalog describing their equipment—coolers, condensers, ore feeders, etc., and particularly the K and K flotation machine. Numerous blueprints are found, and results of tests made by various firms using this particular equipment are given. A request for catalog B will bring a copy to you.

A. T. Aitken, of the Midwest Refining Company, Denver, Colo., has been spending several weeks in the East.

Mr. J. R. Jones of the United States Bureau of Mines, has gone to San Domingo to prepare a new code of mining law for that republic at the special instance of the Navy Department.

The Colorado Fuel and Iron Company announces the appointment of J. B. Marks as purchasing agent of the company, vice S. G. Pierson, elected treasurer, effective March 17, 1919.

The Huff Electrostatic Separator Company, which has been located for the last fourteen years at 60 India Street, Boston, Mass., has recently acquired and fitted up a large plant at Arlington, Mass., a suburb of Boston, to which it has moved its offices, ore-testing and chemical laboratories and works. It maintains a well-equipped laboratory for the purpose of making either preliminary or complete tests showing the results that can be obtained commercially in the separation or concentration of minerals, abrasive materials and reclaiming valuable content of many waste materials by the Huff electrostatic process. Mr. H. B. Johnson, a member of the American Mining Congress, and an expert on graphite refining, is general manager of the company.

The expansion of the business and professional work of the Merrill Metallurgical Company, due to the increased use of its apparatus and processes and the acquisition of other processes, products, agencies and devices, has necessitated the enlargement of its staff and facilities and made advisable the incorporation of the Merrill Company. The Merrill Company takes over the patents and commercial business of its predecessor and will continue to enlarge its scope as new devices and products become available which it is justified in presenting to its clients as of unquestionable merit and efficiency.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

EQUAL RIGHTS FOR ALL

The official call for the 39th annual convention of The American Federation of Labor which will assemble in Atlantic City, June 10, contains the following announcement of the ideals of the organization and the work of the convention:

"To bring about more effectually than ever a better day in the lives and homes of the toilers; to defend and maintain by every honorable means in our power the right to organize for our common defense and advancement, for the exercise of our normal and constitutional activities; to protect and promote the rights and interests of the workers; to assert at any risk the equal rights before the law of every worker with every other citizen; to aid our fellow workers against the effort to entangle the workers in the meshes of litigation before the courts in the several states, to make effective in our everyday lives the principle declared in the law of our republic (the Clayton law).

"That the labor of a human being is not a commodity or article of commerce;" *to arouse our fellow workers and fellow citizens to the danger which threatens to curb and take away their guarantee of freedom; to meet and help solve the vexatious problems of peace and reconstruction.*"

In declaring for "equal rights" the Federation strikes a very sympathetic chord with the employer. The Federation has at last become the friend of the man who has invested his capital in a business enterprise. The announcement of the Federation program is filled with high ideals which will receive the plaudits of the business men of the country who have long held that Labor and Capital have equal rights not only under law but as a matter of justice between men. MINING CONGRESS JOURNAL holds that

each laborer should be a salesman of his own goods and these goods must be sold on their merit and not under a general label. To assert the "equal rights before the law of every worker with every other citizen" means, if we interpret English correctly, that the worker expects and will ask for only the same brand of justice and business contract that he is willing to measure out to the man who invests his brains and cash in a business enterprise.

Employers under the law are responsible for their contracts both express and implied. Labor must be equally responsible before the law. The Clayton law provides that labor organizations shall be exempt from the provisions of the Sherman Anti-Trust law. Organized labor has continuously fought to evade responsibility. Very many advantages would accrue to organized labor through incorporation, but these advantages have all been refused because of the responsibility which incorporation entailed.

The decision in Danbury Hatters case, fixed responsibility. The Clayton Law was enacted at the behest of organized labor to avoid the effects of that decision. The Bache-Denman case has again fixed responsibility. And now the American Federation of Labor seeks to "*Arouse our fellow workers and fellow citizens to the danger which threatens to curb and take away their guarantee of freedom.*" Does this mean the freedom to burn and destroy the employer's property should he presume to employ nonunion men in the operation of his coal mines?

Underneath the clever sugar coating of

declarations favoring equal rights before the law which all employes heartily endorse, lies the demand that organized labor shall not be held responsible for its contracts and that in case of industrial wars no punishment shall follow the destruction of property except through the criminal courts and by the act of a local jury usually either in sympathy with the accused or under such intimidation as to prevent a free performance of the jurors' duty. And such is the real demand rather than "to assert at any risk the equal rights before the law of every worker with every other citizen." Let organized labor assume responsibility for its acts if it expects its pretensions to be accepted.

THE MENACE OF BOLSHEVISM

Democracy is self-control. Perfect self-control marks a high order of human development. A Democratic government, a self-government, requires a high order of citizenship. Where this does not exist democracy fails. Ignorant peoples require a despotic government, despotic in proportion to their ignorance. The growth of democracy in Russia was more rapid than the education of her people. Czar Nicholas yielded liberty to his people before they were fitted for its responsibilities.

Those of the Russians who were ignorant mistook liberty and freedom of speech for license and what at first appeared to be a miracle-working move to free the world of despotism became a scourge to all civilization. The Revolutionists destroyed their own and others freedom to become the victims of disorganization. Bolshevism has become synonymous for the degradation of men and women to the lowest depths of enforced immorality, starvation, despair, murder, rapine—everything that goes with the complete setting aside of law, order and government.

This editorial is prompted by a lengthy conversation with an American soldier who spent a year in France, who carries a shell hole in his skull as a memento of the occasion, and who is ready—he says

—to go over the top again for the same cause. He doesn't fear another outbreak in Europe. But he fears for his own country. He voiced what has been before voiced by other soldiers, that Bolshevism is here—here in our own "Land of the Free," where all men were born free and equal. Thus, American Bolshevism paints a picture of the difference between anarchy in an oppressed and hopeless country and in a land where comparative freedom and peace are the rule. In America, they say, nothing could happen as it has in Europe. We are civilized here and revolt and revolution and reorganization of society would walk in gently, most modestly and in a kindly spirit of brotherly love. Of course, say they, it might be necessary to make a show of force of numbers to prove the strength of the movement. It might be necessary and it would be a very pleasant occupation to force the man whose fortune was built by his thrift and brains to leave his comfortable offices and go out into the mine and factory to try a little honest toil. In one public school in Washington, D. C., a district where there is a large foreign element, a teacher recently found the younger children boasting that they were "soon going to live in the Northwest," and the rich children there would soon be coming to their school instead. Quiet questioning developed the information that at home the men and women were talking of the day when the idle rich would be changing places with the poor in the world. Those who lived in better houses were all classed as parasites who would soon have to give up their luxuries. The matter reached the Department of Justice, but nothing is known of what happened. It was probably the idle prattle of those who think they are downtrodden because they spend money instead of checks. It is time that a little educational propaganda be organized by our well meaning Administration. The Liberty Loans all went far over the limit. The Victory Loan followed suit. The men who have money loaned liberally. The men with a few dollars borrowed more and loaned to the Government and America showed that

she wanted to "clean up" the war work finally and completely, and yet history repeats itself.

Civilization—torn and destroyed in Europe by a coterie of men whose lust for power was greater than their love for their fellow-men—can be destroyed by the same lust which, unhampered and with a torch in one hand and a sword in the other, has shown itself to be the most terrible despot in the world today.

A CONGRESSIONAL HUMORIST

The Honorable "Billy" Mason of Illinois has long been known and loved for his original way of doing things and his latest method of making unnecessary a national anti-child labor law is as practical as it is humorous. The bill just proposed and which has been referred to the Committee on Labor, provides that any manufacturer or mining operator who employs boys under sixteen in mines, or boys or girls under fourteen in other industries, shall pay a penalty to the Federal Government of two dollars per day for each day of such employment for each such boy or girl. The Congressman is following out the trend of "Administration" thought in helping to provide for the heavy post-war expenses. The one thing not provided for in the Bill was protection for the boy or girl through fixing a minimum wage of—say five dollars per day. By carrying the plan still further and providing that each employer should carry a certain stipulated number of boys and girls upon his pay roll, the measure could have provided a reasonably large annual income for the Government and thus materially decreased the excess profits which are now worrying the collectors for the Treasury Department.

"ORDERS FROM PARIS"

When Acting Chairman Gay of the War Trade Board admitted to Senator Jones and Congressman Webster of Washington a few day ago that the embargo had been removed from magnesite "on orders from Paris" and when these

same members of the Washington delegation learned that a recent order of the U. S. Shipping Board fixed a freight rate of \$7.50 per ton on magnesite from Austrian ports to the United States there followed a conference between the members of the delegations interested in magnesite production. The War Board and Shipping Board announcements, in the face of the fact that Austria is still an "enemy country" created consternation. It was found that these two war organizations had acted after the matter had been talked over in the temporary capital of the United States between the three heads of the three most powerful control agencies, Vance McCormick, chairman of the War Trade Board, Bernard Baruch, chairman of the War Industries Board, and Edward N. Hurley, chairman of the Shipping Board. This knowledge started the Washingtonians to preparing a Bill for early presentation and by which it is proposed that the great deposits of magnesite in Washington and California shall be protected and the profits which have heretofore gone into the treasuries of foreign-owned ship companies and Austrian mining companies shall be retained hereafter in America.

"A GROWING DANGER"

Under the above caption—after discussing an alleged threatened invasion of the American cotton trade by the Japanese cotton manufacturers, the Quarry Workers Journal prints the following editorial which, carefully read, might suggest to an unbiased judge that the Russian idea of "rising up and taking" whatsoever it pleaseth the riser to take, seems to meet the editor's approval. It seems difficult to believe that there are those so ignorant of the laws of economics that they actually believe that bare hands alone create the wealth of the world and that, having created it they have only to "take it and be free."

The Quarry Workers Journal says:

"Industry is slowing down. Unemployment is increasing. Tens of thousands of soldiers are being demobilized each month. There are less jobs to be had inside the gate and there is a longer line outside waiting for jobs.

"Your wages are good; your union is strong; but some day, when you get your envelope you will be told—'no work for you after this week.'"

"What will you do then?"

"High wages will not help you. The union will be impotent."

"You will be out of a job, and you will stay out of a job until you can find another boss willing to hire you. The machine on which you work, will stand there idle, your landlord will demand the rent, the children will ask for bread and you will have none to give."

"You will understand on that bitter day, that you will never be a free man until you own the machine beside which you work and the product that you create. *Workers, you make the world. It is yours. Take it and be free.*"

This editorial utterance of a widely read labor journal is well worth the careful perusal of the men who are dreaming that within the confines of this nation there lies nothing but "peace and safety."

TARIFF MEASURES

ALREADY LAUNCHED

The Ways and Means Committee of the House already has several "tariff" measures in its hands although it is generally agreed that there shall be no effort in this Congress to attempt to revise the tariff laws along general lines. The Longworth measure for the protection of American dyes and coal tar products was the first. Others are by Congressman Timberlake of Colorado for a ten dollar tariff on tungsten ores or crude tungsten and \$1.25 per pound on acid and other forms of tungsten and by Congressman McPherson of Missouri for a tariff of two cents per pound on zinc.

A DEPARTMENT OF EDUCATION

Senator Owen of Oklahoma proposes to add a "Secretary of Education" to the President's Cabinet. To that end Mr. Owen has introduced a bill, "S. 819," for the creation of a Department of Education and the transfer of all educational work now in control of the Secretary of the Interior to the proposed new department and provides for an appro-

priation sufficient to carry out the purposes of the act.

It is understood that the educational interests of the United States have been laying the ground work for this legislation for some time and that a strong argument will be placed back of this amendment to induce Congress to place the educational machinery of the country upon a new basis with proper initiative powers.

OVER THE TABLE

Secretary Wilson says that the only real issue between Capital and Labor is regarding the "division of profits."

Taken in conjunction with the seeming determination of President Wilson that the labor problems shall be discussed as between partners—the Secretary's statement is illuminating. The Secretary of Labor also proposes that Labor and Capital shall get together over the "council table" and talk it out.

To the latter proposal MINING CONGRESS JOURNAL heartily assents. There is but one way to settle a vital issue as between men, and that is "over the table" in calmness of mind and in fairness of attitude, with full consideration of the business elements entering into every phase of a contract.

The contract so made is usually acceptable to all concerned and is carried out with mutual profit. A contract forced upon either party without due consideration of all elements of profit and loss may be the cause of unbearable losses and attendant elements of discord.

President Wilson places the labor problem to the forefront of all national problems at this time. He says, and rightly, that industrial success as a nation depends upon the existence of the entente cordiale between the employers and employed of the country. There is but one way open—provide a council table and talk every problem out to the last detail.

The Whitley Commission plan of England may have opened the way for a solution in America. Under this plan, already adopted by many of the industries of Great Britain, much of the hos-

tility existing between employers and employed has been overcome through open and frank discussion of business affairs. The British Parliament authorized the organization of a commission of twelve, composed of leading trades-union officials, respected economists of England and employers of high standing. It included two women. The results of the reports made by this commission are that joint industrial councils representing employers and employed have been organized to handle the problems of each specialized industry, and the Whitley Commission is endeavoring to spread the movement into all industrial channels and to organize a national joint commission.

Perhaps not enough time has elapsed since the inception of the idea to check upon the results with finality, but enough has been accomplished to make it apparent that Mr. Whitley offered to a troubled industrial world a very practical thought at a time of need.

Although the industries of this country have never attempted—as industries—to work out any plan such as has been developed under the Whitley Commission in England, many manufacturing institutions in various states have given fair trial to widely differing plans through which a spirit of cooperation has been developed in the producing organizations. Many years ago a great manufacturing plant in Battle Creek, Mich., employing 1,600 skilled mechanics and wood workers in building threshing machines, introduced to Michigan the plan of annually distributing bonuses in stock to all employes in amounts proportionately fixed by the wage scale. To this was added a "council" composed of both officials and employes of the plant. Never, to the writer's knowledge, has there been serious labor trouble in this plant. One of the largest and most successful manufacturers of church organs in America, a Detroit concern, organized a "council" composed of the foremen of each department of its plant, the superintendents, and certain officials of the company. This committee met regularly each week and every phase of the business of the company came before it for consideration.

Complaints of workmen were taken up and settled and especially meritorious service was reported and publicly commended. The employes became a family of closely allied friends and the business grew to great proportions with noticeable lessening of losses through leaks and accidents.

Many successful plans have been put in effect in this country a knowledge of which would lead to adoption elsewhere. A careful study of this question will be undertaken by the American Mining Congress Committee on Industrial Relations and Welfare, and it is hoped that much of good will result. THE MINING CONGRESS JOURNAL fully believes that the great problem of the future relates to the proper relation between employer and employe.

INCIDENTAL EXPENSES

"Government ownership" of railroads cost a little matter of \$130,000,000 in March. One cheering statement in the report of Director Hines is to the effect that the March income was increased more than \$14,000,000, and another fixes the average increase in rates at 25 per cent. Unofficial experts are now estimating that a sufficiently large increase in rates and a sufficient reduction in monthly expenses will eventually prove that federal control of transportation systems could be carried on without loss to the Government.

THE SORROW OF AN ANARCHIST

In Bolshevist Russia, according to an official report, unskilled labor is paid \$10 per day. This is a conclusive argument in favor of "soviet" government. In the same city, however, virtuous school girls, wives and mothers have been victimized by the dozens, then mercifully murdered and cast to the dogs. But what seems a deeper sorrow to the gentle anarchist is the fact that at \$10 per day he has to work twenty-five days to pay for one pair of high-top boots, although in the days of sane conditions he could get as good boots for \$4 per pair.

COMMITTEE ON NATURAL RESOURCES

One of the most vitally important committees ever announced by the American Mining Congress will soon meet in Chicago to complete its organization and to consider a work of national importance. Under the designation of "Committee on National Resources," five of America's leading thinkers and workers in the industrial world have been asked to serve the nation by planning a program of constructive legislation to be suggested to Congress and under which, it is thought, the leash can be removed from American development. Those who have been invited to organize the movement are: Charles S. Keith, Kansas City (lumber); William A. McGonigal, Duluth (iron); B. G. Dawes, Columbus (petroleum); O. C. Picher, Chicago (metals), and Francis S. Peabody of Chicago (coal), and it is proposed that this committee shall meet weekly until the vast work ahead of it shall have been outlined. One of the subjects which will have immediate attention will be the proposal to reorganize the government's attitude on business combinations. The great work accomplished under government requirement during the past eighteen months to meet war needs and the total disregard of war boards for existing laws and decisions of courts regarding business organization, accomplished results which demonstrated the possibility of reorganizing business into practical groups for collective management and production which, under proper governmental supervision, would secure the highest possible development of our industrial life and make possible a proper conservation of the nation's resources.

It will be the duty of the special committee above named to find the line of demarcation between the right and wrong in this great national problem, and to place its finding in the hands of the public and the Government.

THE NEXT OIL STRIKE

A New York City correspondent inquires of the Director of the Geological Survey. "Would you be so kind as to in-

form me where the next oil strike is going to be?" Doubtless publication of this information would be interesting news to many outside of New York as well as in New York.

LETTER OF APPRECIATION

The following is one of a great many personal letters received from men who were crippled by the failure of the War Minerals Bill to function:

The American Mining Congress,
Washington, D. C.
Gentlemen:

I have heretofore received your letters and noted with pleasure, the good that has been and is being done by the American Mining Congress for the relief of the miners.

At the request of the Government for an increase output of chrome, to help win the war, I invested every dollar I had and could raise and developed more chrome, with the result that with the breaking of the market I went with it as is the case of many other patriotic miners.

As to what is to be done, or can be done to put the industry on a sound business basis and footing is a question that is hard to answer, so long as foreign ores come into this country free it will be hard for the domestic producer to compete with the foreign product.

Looks to me like the means of putting the industry on any sort of footing rests with the new Congress, and some steps should be taken in regard to placing an embargo or duty on imported ores as this would enable the domestic producers of minerals to operate their properties without loss.

As soon as conditions will permit, I will so far as I am able, financially assist in the good work. Thanking you for the results you have gained, and the interest you have taken in the interest of the producers of minerals.

Yours truly,

Frank Cain.

Riddles, Oreg., May 10, 1919.

Quebec Magnesite

The Superintendent of Mines of Quebec reports the Quebec production of magnesite in 1918 as follows: Crude magnesite, 5,897 short tons; calcined magnesite, 1,318 short tons; dead-burned magnesite, 21,439 short tons; total, 28,564 short tons. The great bulk of this production, probably 60-65 per cent or more, was shipped to the United States.—Bureau of Mines Minerals Investigations.

SHIPPING BOARD NOW HAS TONNAGE AVAILABLE FOR OVERSEAS COAL TRADE

The Federal Government has taken a practical step toward the expansion of American coal trade in foreign markets by the creation of a department of coal exports of the United States Shipping Board and by the announcement that it is now prepared to allocate ships for the delivery of increasing quantities of this fuel to Europe, and to Central and South America.

The creation of this department was followed by a conference at the Shipping Board offices between representatives of that board, of the State and Interior Departments and of fifty of the leading coal exporters of the country to work out a program.

Chairman Hurley in opening this conference made the important announcement that the Government now is in a position to back the coal producers and exporters to the limit of its available shipping resources. He declared that the United States could sell coal at a profit at Newcastle itself, and that any nation with the illimitable coal tonnage which America possesses, coupled with a great merchant fleet of its own, was in a position to dominate the coal business of the world. He added, in his brief address, that there will soon be plenty of ships to meet all coal export demands and that the overseas shipping of the great coal ports of Baltimore, Philadelphia and Norfolk will soon attain enormous proportions.

These assurances were later repeated by Assistant Director of Operations Taylor of the Shipping Board, who presided, and by H. Y. Saint, of Seattle, the head of the new department of coal exports. Van H. Manning, director of the Bureau of Mines, and representatives of state department committee on exports promotion further enlightened the enthusiastic body of coal exporters upon the policies of government and upon the unparalleled opportunities for money-making which foreign fields now offer to American coal enterprises. The situation with respect to France and Belgium was particularly emphasized by Mr. Manning, who has just received a report from a personal representative now in Europe. This shows that those two countries alone are in the market for 42,000,000 tons of coal. In brief, this report shows the French and Belgian situation to be:

	Tons.
Destroyed French output	20,000,000
Reduced Belgian output	9,000,000
Normal French imports	21,000,000
Normal Belgian imports	4,000,000
Total	54,000,000

Mr. Manning showed, however, that the French would have, through its control of the Saar Basin field, to be taken from Germany, approximately 12,000,000 tons a year, which would reduce the need of foreign coal for France and Belgium from 54,000,000 tons to 42,000,000 tons. Speaking informally, he expressed the belief that Italy would buy 1,000,000 tons of American coal without delay, if delivery could be effected, and he mentioned an interview with a representative of the Swiss Government, who had asked for the exportation of 250,000 tons of American coal to that country.

The State Department committee, after an extended investigation of the whole problem of coal exports, is inclined to the view that America's best coal market in the future will be found in Central and South America and in the Mediterranean. This committee explained to the coal exporters that Great Britain, with shorter water hauls, would compete more successfully with the Americans for the coal trade of her immediate neighbors. This includes the group of northern neutral nations as well as France and Belgium, but does not necessarily include Italy or the near eastern countries beyond.

It was explained by the State Department officials that Great Britain's success in coal exportation in the past was due in large measure to the fact that it was a ballast proposition with her. In other words, she could send out coal tonnage in quantities from Cardiff as a sort of ballast and because she was in a position to import tonnage in the same vessels, she could give a favorable coal rate, although her mine prices might be as high or higher than those of the United States.

It was strongly urged upon the exporters in that connection that they further explore the Central and South American coal markets to which coal might be shipped in the place of ballast and from which there can be drawn heavy tonnage for the return voyages.

To the question of the most immediate importance—that is, how many ships can be placed at once at the disposal of the coal exporters? no answer can be given for some time. Mr. Taylor was pressed more than once for some definite information as to the amount of tonnage he could make available without delay. He said that this was a matter which would have yet to be worked out. The Army is releasing more and more ships all the time and the shipyards are delivering more and more new craft, but it is not quite possible now to figure accurately upon the allocation pro-

gram. He was of the opinion, however, that as much as 250,000 tons would be placed at the disposal of the coal trade in June. This tonnage is to be increased steadily until enough of the merchant fleet is in the coal-carrying business to meet all demands that may be made upon the Shipping Board.

Much of the conference was taken up with the technical details of the new shipping program. The exporters wanted to know to what extent the Shipping Board would recognize an inquiry from a foreign buyer, in giving options on ships, as distinguished from an actual bona fide order for coal. Also they wanted to know what charter terms would be imposed by the Government, practically every coal dealer here urging that the Welsh charter be made a model for the American document.

It was clear from the proceedings that many technical details must yet be worked out by the parties at interest, but the big fact is that the Federal Government at last has met the urgent export situation by guaranteeing the necessary shipping to make it a success and that from this time forward American coal will play a part in the fuel markets of the world.

The National Coal Association on May 27 issued the following statement:

"Opening foreign markets to the American coal trade, as contemplated by the Government in the creation of the new department of coal exports, announced today by the Shipping Board, will provide the industry, it is believed by representative operators, with a new and powerful stimulant which should quicken production toward the pace that must be maintained if a serious shortage in home markets is to be averted next fall and winter.

"For months the coal industry of the United States has been unable to supply even a small percentage of the millions of tons of coal needed in foreign markets. This has been entirely due to the shipping situation, the first call of ships being for the homeward transportation of troops and the outward flow of foodstuffs to Europe. In the meantime, while almost every nation under the sun has been calling for coal, American mines have been producing from one-third to one-half their full-time output; in some fields, even less.

"The situation has now been reached where there must be a decided increase in production if our own needs are to be met in this country. That increase can be effected only by the entrance of buyers into the market. Mine forces cannot be kept together and mines cannot operate if there are not orders to fill. American buyers have not been in the market during the past few months to the extent necessary to enable operators to do more than keep

their forces together. The men are going and have gone, in many instances, into more regular and less hazardous employment. Also thousands of miners are today at Atlantic ports, awaiting passage to Europe.

"The entrance, therefore, of foreign buyers into American coal markets, should help in keeping together forces necessary to produce coal to meet not only foreign requirements, but needs in the United States next fall and winter.

"Unless the United States can ship its coal abroad there is every indication that there will be a world-wide shortage of coal next winter. No other country can supply the demand. In Great Britain, production has dropped to levels far below the pre-war days. It is regarded as virtually impossible that Great Britain can mine the coal that the world will need. She is not producing it in sufficient quantities now, and the rationing system, under which consumers may obtain only a limited supply, will be continued, it has been announced, in the United Kingdom for months to come, notwithstanding the fact that hostilities ceased more than seven months ago.

"The coal mines of France will not produce their pre-war output for from three to six years, engineers estimate, while in Russia the situation, so far as next fall and winter are concerned, is regarded almost as hopeless. Wholesale bankruptcy threatens the coal industry in Germany—indeed, in many instances has already overtaken it—as the result of revolutionary changes in governmental policy affecting the industry and because of general labor disturbances. A shortage characterized as acute exists in Australia, the one remaining large source of supply. Only in Spain, which does not produce enough to meet its own needs, has coal production been on the increase during the year, and in Italy, where a small quantity of lignite, far from sufficient to meet Italian needs, is mined.

"The entire world, with the exception of the United States, is in the throes of a universal coal shortage today and only the most sweeping increase in production wherever coal is mined can avert world-wide suffering next winter. More than 100,000,000 tons of coal could be sent out from the United States during the remainder of the year, were there ships enough to carry it, without meeting in full the foreign demand."

A. J. McLennan, representing the Crosby interests, Duluth, spent several days in Washington the latter part of May in the interest of the Crosby claim under the War Minerals Act.

BUREAU OF MINES TO DEDICATE ITS PITTSBURGH STATION

After having devoted almost its entire energies toward helping to win the war by giving over to the common cause its experts, that they might through their peculiar knowledge develop new methods of destruction for the enemy, the Bureau of Mines, Department of the Interior, has now returned to its interrupted peace program, and during the week of September 20 next will formally dedicate, to the best interests of humanity, its new million-dollar laboratories and workshops in Pittsburgh, Pa., with ceremonies which will be national in scope.

High officials of the Government, together with the governors of the principal mining states and the leaders in the mining industries and miners organizations will be present to take part in the dedicatory ceremonies.

A feature of the dedication will be a great, national Safety-First meet, teams of miners from all over the country competing for cups and medals which will proclaim their supremacy to the entire country. There will be contests in rescue work and in first aid to the injured, and as there is immense rivalry between the teams of the different mining companies, it is expected that these contests will take at least two days for decision. On September 30 the elimination contests will begin at Forbes Baseball Field in Pittsburgh and will continue until only the winning teams are left for the final championship contests, which will take place on October 1 immediately after the elimination trials are completed. Souvenir banners, badges and mementoes will be given to every competing team. It is hoped that the coal operators in the Pittsburgh districts, employing thousands of men, will declare a holiday on the day of the final contests, thus permitting the miners to witness the finish of what promises to be the greatest Safety-First meet ever held in any country. At the last national Safety-First meet, which was held in 1911, there were more than 18,000 miners present. The contests are to be open to all teams from the mining and metallurgical industries of the United States.

While the national Safety First meet will be the spectacular feature of the dedication, other events of importance will be sufficient to make the dedication the occasion for a notable gathering of the engineers and scientific men of the country, for the bureau is engaged in many tasks outside the safety problems in mining. The different laboratories of the bureau have been completely equipped for the investigation of the various problems relating to, not only greater safety, but also to greater efficiency in the mining and metallurgical industries. Visitors will be invited to the electrical and mechanical workshops and laboratories of the bureau and also to the petroleum, gas and coal laboratories, the testing gallery of the mine safety section and the industrial gas-mask division.

Another point of interest will be the experimental mine of the bureau at Bruceton, Pa., twelve miles from Pittsburgh, where an actual explosion of coal dust in the mine will be staged for the benefit of those attending. At the experiment station there is also to be shown a complete exhibit representing the mining and metallurgical industries of the country. It is expected that this alone will prove a magnet for the scientific men, as it will represent the latest developments in these industries only to be brought together in such an exhibit. In addition there will be a varied program, including visits to typical Pittsburgh industries. The dedication will cover three days, September 29 and 30 and October 1.

RESPONSES SLOW TO ALLOY QUESTIONNAIRE SENT TRADE

The bureau's compilations of significant figures obtained by reports on forms submitted to those interested in the minor alloying metals are more complete for the month of April than for the preceding months, but are by no means as comprehensive as it is hoped to make them if those reporting will fill out and return the forms promptly. It is believed that a real benefit will accrue to the trade if the compilations are completed promptly at the end of each month and are sufficiently comprehensive to include at least 90 per cent of stocks, receipts, shipments, etc.

The success or failure of the undertaking, however, depends upon its value to the trade and on the promptness with which the reports are received, and it is therefore urged that those who have not reported either send in their reports promptly or state their unwillingness or inability to do so. It is hoped that the May reports will be virtually correct inasmuch as most of the firms that have not yet reported for April have signified their intention to do so.—Bureau of Mines Minerals Investigations.

Coal Company Officer Resigns

Edwin Ludlow, for more than seven years vice-president of the Lehigh Coal and Navigation Company, with headquarters in Lansford, has resigned to take effect July 1, when he will take up his residence in New York. S. D. Warriner, president of the company, has announced the appointments of W. G. Whildin as manager of the company's properties in the Panther Creek Valley, with headquarters in Lansford, and J. B. Warriner, now in charge of the Harwood and Cranberry Creek properties, as manager of the company's properties west of Tamaqua, in addition to his present duties. Both will work directly under the president.

SEES NO HOPE FOR MANGANESE MINING IN THE UNITED STATES

The United States Tariff Commission has recently completed the assembling of information on the manganese ore mining industry and has prepared an analysis of the competitive position of the United States in the manganese industry of the world. Among interesting facts recorded are the following:

Manganese ore is the raw material for ferromanganese or spiegeleisen, products essential to the manufacture of steel. Minor amounts of the ore are required by chemical and other industries, but 96 per cent of the consumption is for making steel.

Prior to the European war the United States produced less than 1 per cent of its manganese requirements. The remainder was imported mainly from India, Russia and Brazil in the form of ore and from Great Britain in the form of ferromanganese. It is noted that the countries possessing the largest and richest deposits have an abundant and cheap labor supply.

Under war conditions India and Russia were practically eliminated as sources of supply. The productive capacity of the world's major deposits is so much greater than the total demand for ore for steel making that if any single source is eliminated temporarily, the demand can be fully met by the remaining sources with but little extra effort.

The industry considerably expanded during the war period in Brazil and in Cuba. The large supplies from these nearer countries, together with the increased domestic output, proved greater than even the enormously expanded needs of this country. The United States became independent of British ferromanganese and of Indian and Russian ore.

The Cuban industry was promoted by American interests and the entire production sent to the United States. The quantity imported from Cuba shows annual increases from 550 tons in the fiscal year 1915 to 67,780 tons in 1918, an amount equal to one-twelfth of our total imports.

Domestic production of high-grade (*i. e.*, 35 per cent or more manganese) ore used largely for making ferromanganese increased from 4,063 tons in 1913 to about 294,000 tons in 1918. Production of low-grade (less than 35 per cent manganese) ore used partly for making spiegel and partly smelted direct in iron furnaces, increased from 85,588 tons in 1913 to over 1,079,000 tons in 1918. The number of shippers of high-grade ore in 1918 had increased from approximately 75 in 1917 to about 210.

Manganese mining on a large scale in the United States, however, is an artificial industry. Under normal trade conditions,

with a free movement of ore from foreign countries, it cannot continue except on a very limited output. Domestic resources have been carefully estimated by the Geological Survey and found to be insufficient to supply domestic requirements, if entire dependence be placed on our resources, for longer than three years at most.

The domestic ore is low grade, obtainable in small lots only, and variable in character. Aside from the higher cost of domestic ore as compared with the foreign product, any large dependence on domestic supplies involves the rapid depletion of our limited reserves.

The foreign resources are in some instances practically inexhaustible, are high grade, and are more easily mined than the domestic products. The average grade of imported ore is from 45 to 55 per cent manganese as compared with domestic "high grade" running 35 to 45 per cent.

A dominant factor in the domestic manganese industry is that most of the American mines are situated in localities remote from the points of consumption, often at considerable distances from the railroad. Foreign manganese must eventually furnish the American supply, regardless of any temporary expedients that may lead to the continuance of domestic mining.

During the war period a number of mines were opened up and equipped for the purpose of providing manganese as a necessity in the war program. Many of these properties failed to return the capital invested up to the time of the signing of the armistice. Since there was some justice in the claim that this investment had been undertaken for patriotic reasons, compensation from the Government has had consideration at the hands of Congress. Such compensation is now being adjusted under the War Minerals Relief Act which provides for the investigation and liquidation by the Secretary of the Interior of certain financial losses sustained during the war period in four mining industries,—manganese, tungsten, pyrites and chromite.

The Stephens-Adamson Manufacturing Company of Aurora, Ill., has appointed Fred W. Wells as assistant engineer of the New York district office. Mr. Wells was associated with this company prior to his entering the service early in the year of 1918. He was appointed first lieutenant in the 26th Engineers, served in various sections of France and with the 1st Army during the Argonne-Meuse operation.

George H. Crosby, who has spent the winter at Pasadena, Cal., is again at Duluth, Minn., his home.

HARRY N. TAYLOR ELECTED PRESIDENT OF THE NATIONAL COAL ASSOCIATION

Harry N. Taylor, vice-president of the Central Coal & Coke Company, Kansas City, Mo., was elected president of the National Coal Association at the annual meeting in Chicago, May 22. Other officers elected follow:

Vice-presidents: A. R. Hamilton, president North Penn Coal Company, Pittsburgh, Pa.; T. B. Davis, president Island Creek Coal Company, No. 1 Broadway, New York, and A. M. Ogle, president Vandalia Coal Company, Terre Haute, Ind.

Treasurer: J. J. Tierney, president Powhatan Coal Company, Philadelphia, Pa., re-elected.

J. D. A. Morrow, who has served the association as its general secretary since its formation, was elected to the office of vice-president under an amendment to the by-laws adopted by the membership at the meeting.

Mrs. H. S. Taylor was elected secretary.

The Executive Committee of the new Board of Directors is made up as follows: J. P. Walsh, Vice-President Pittsburgh Coal Company, Pittsburgh, Pa.; B. M. Clark, Rochester & Pittsburgh Coal & Iron Company, Punxsutawney, Pa.; George H. Barker, President Maynard Coal Company, Columbus, Ohio; C. E. Bockus, President Clinchfield Coal Corporation, 24 Broad Street, New York; F. C. Honnold, Secretary Coal Operators' Association, Chicago, Ill.; J. C. Brydon, President Somerset County Coal Operators' Association, Somerset, Pa.; W. H. Huff, Vice-President Victor-American Fuel Company, Denver, Colo.; E. C. Mahan, Secretary and Treasurer Southern Coal & Coke Company, Knoxville, Tenn.; Erskine Ramsay, First Vice-President Pratt Consolidated Coal Company, Birmingham, Ala.

Ex-officio members: Harry N. Taylor, President National Coal Association, and Jere H. Wheelwright, former President National Coal Association.

Harry N. Taylor, the new president of the National Coal Association, has been in the coal business for approximately 35 years. His first connection with the industry was with the Sunday Creek Coal Company at Columbus, Ohio, in 1884, as an employe in the coal yards. Mr. Taylor later went to the mines and afterwards was made manager of the retail department of the company at Columbus. He was then sent to Milwaukee and managed the docks and marketed the coal on the lakes.

In 1891 he went to Chicago and became interested in Illinois coal. He was made president of the General Wilmington Coal Company, the sales organization for the entire Wilmington coal output in Southern Illinois, one of the chief producers in that section, built the coal docks at Waukegan, Ill., for the Western Coal & Dock Company, of which he was president, and afterwards was president of the Monon Coal Company, one of the largest producers in Indiana. Mr.

Taylor afterwards became connected with the Taylor Coal Company, operating in Southern Illinois, the Harkes Coal Company of Iowa, the Powhatan Coal Company of Missouri, and is the vice-president in charge of coal mines of the central Coal and Coke Company, the largest company in the Southwest, operating in Kansas, Missouri, Arkansas, Oklahoma and Wyoming.

Last year Mr. Taylor was vice-president of the National Coal Association. He served the Fuel Administration in the capacity of district representative for Iowa, Missouri, Kansas, Arkansas, Oklahoma and Texas.

Those who attended the meeting were unanimous in praise of the painstaking and elaborate arrangements for their entertainment, designed and perfected by the committee in charge, assisted by coal operators resident in the city of Chicago.

The General Arrangements Committee, consisting of George W. Reed, A. J. Maloney and F. C. Honnold, in addition to presenting a business program, also carried out elaborate plans for the social entertainment of the visiting members. These included a smoker in the Gold Room of the Congress Hotel on the evening of Thursday, May 22; a theater party for the wives of delegates at Powers Theater the same evening; a dinner dance at the Edgewater Beach, Chicago's popular lakeside hotel, on the evening of Wednesday, May 21; shopping and automobile tours through the city and environs and the opening of all the golf links in and near the city to out of town members desiring to engage in the pastime. A woman's entertainment committee, composed of the wives of Chicago operators, entertained and administered to the comfort of wives of visiting delegates; an elaborate information bureau was installed in the Elizabethan Room of the Congress, where registration was conducted, and nothing was overlooked to make the occasion a pleasant and memorable one.

"See that every guest attending the convention has a good time," was the word sent out by the General Committee to all Illinois operators—and the operators lived up to the request.

One of the first needs of the coal industry, voiced in Mr. Taylor's opening address to the annual convention at Chicago, is a modification of the Sherman law.

"Unbridled competition, disastrous competition, can only result in economic waste," Mr. Taylor said, "the burden of which will finally be placed upon the public, and unfortunately that part of the public which can least afford to stand it, the small consumer."

Mr. Taylor also reviewed the situation from other angles and sounded a warning to the public that consumers would be disappointed in getting their coal supply for the year if they waited until the last minute to place their orders. After expressing his pleasure and gratification at his election, Mr. Harry A. Garfield,

addressing the annual meeting told the bituminous coal operators of the country that in his opinion the time had come when the industry would shortly recognize that government supervision had come to stay; "that it is not a question any longer as to whether government shall keep hands off, but a question as to how far government shall keep hands on;" and that "if we are wise citizens we will quickly move into a position that will enable us to give the very fullest cooperation to the government of the United States in working out some plan for cooperation."

The plan of cooperation proposed by Dr. Garfield was virtually the same as that recently embodied in a statement mailed out by the National Coal Association to all its members upon which a referendum vote was taken. The plan provides for the continuation of government supervision after the signing of peace, through the instrumentality of existing governmental agencies.

FERGUSON TO HEAD CHAMBER OF COMMERCE OF UNITED STATES

Homer L. Ferguson, president and general manager of the Newport News Shipbuilding and Dry Dock Company of Newport News, Va., has been elected president of the Chamber of Commerce of the United States.

Mr. Ferguson, who has been a member of the board of directors since February, 1914, and who has been actively identified with the chamber's work, succeeds as president Harry A. Wheeler, of Chicago, who declined reelection. Mr. Wheeler, who served as president the first two years of the chamber's existence and who was called on last year to serve another term during the war emergency, could not accept the place.

Mr. Ferguson was nominated for the presidency by a nominating committee of the board of directors immediately after the chamber concluded its annual meeting at St. Louis on May 1. His was the only name placed in nomination after Mr. Wheeler declined reelection, and the vote, taken by mail, was unanimous.

Born at Waynesville, N. C., March 6, 1873, Mr. Ferguson was educated at the United States Naval Academy, graduating in 1892, and at Glasgow University, Scotland, finishing there in 1895. For eleven years he was a constructor in the United States Navy, leaving the Navy in 1905 to become general manager of the company of which he is now president. He is a member of the Society of Naval Architects and Marine Engineers, the Society of Naval Engineers, the Engineers' Club, New York, and the Army and Navy Club, Washington.

In addition to Mr. Ferguson, the following other officers were elected by the board:

Vice-presidents: Eastern district, A. C. Bedford, New York; north central, Joseph

H. Defrees, Chicago; south central, Thomas F. Gailor, Bishop of Tennessee; western district (to be filled later).

Honorary vice-presidents: Harry A. Wheeler, Chicago; John H. Fahey, Boston; A. B. Farquhar, York, Pa.; Charles Nagel, St. Louis; R. G. Rhett, Charleston, S. C.

Executive Committee: Joseph H. Defrees, Chicago, chairman; Max W. Babb, Milwaukee; A. C. Bedford, New York; W. L. Clause, Pittsburgh; L. S. Gillette, Minneapolis; P. H. Gadsden, Charleston, S. C.; Frederick J. Koster, San Francisco; James R. MacColl, Pawtucket, R. I.; C. A. Otis, Cleveland; L. E. Pierson, New York, and M. J. Sanders, New Orleans.

Twelve members of the board of directors have been named by the chamber's membership committee as follows:

Frank H. Johnston, New Britain, Conn. (reelected); Lewis E. Pierson, New York (reelected); Henry M. Victor, Charlotte, N. C.; P. H. Gadsden, Charleston, S. C.; Frank Kell, Wichita Falls, Texas; Clarence H. Howard, St. Louis (reelected); Max W. Babb, Milwaukee (reelected); George H. Barbour, Detroit; Charles C. George, Omaha; A. E. Carlton, Colorado Springs, Colo.; J. E. Chilberg, Seattle (reelected); Frederick J. Koster, San Francisco.

TONS OF SILVER BULLION HAULED ACROSS CONTINENT DURING WAR

Now that the government has completed its war-time shipments to India of silver from melted dollars, Director of the Mint Baker has disclosed how thousands of tons of the metal were hauled from the Philadelphia mint to San Francisco in special trains guarded by armed men without loss of an ounce and without general knowledge of the procedure.

Eighteen of these treasure trains made the trip across the continent in the twelve months ending last April 23, with the silver like big bricks piled high in each of the five express cars composing a special train. Two men with automatic pistols at their hips and sawed-off shotguns on their laps sat in each car, and later guarded the secret transfer of the white bars from train to ship at San Francisco.

Each silver brick weighed about 62 pounds and was worth \$1,000, and each train carried between \$5,000,000 and \$10,000,000 of the bricks. Wrecking of the trains and theft of the metal by bandits was considered an ever-present menace to be guarded against. Guarded shipments of silver dollars also were made from the United States Treasury in Washington and from the New Orleans subtreasury to Philadelphia. These dollars traveled in stout bags of 1,000 each, and were handled much like bags of sugar, except that armed men always were near. More than 265,000,000 silver dollars were melted and shipped to India during the year, to meet urgent war demands for coinage.



SCENE AT THE SMOKER

One of the features of the National Coal Association's Convention at Chicago

TIN STAGNATE AS STOCKS AT SMELTERS ACCUMULATE

There is some speculation as to the reason for lack of interest there in foreign tin markets. One explanation advanced is that the domestic smelters are accumulating considerable stocks and will be in position to care for the needs of the consumers for some time after government stocks have been allocated. Moreover, consumers recognize that large stocks of tin must have accumulated at sources of supply, and when the import restrictions are removed they anticipate that such stocks will be offered at a considerably less price than is now being quoted.

It has been suggested also that another reason for lack of interest is that some industries heretofore using tin have developed substitutes. In this connection it might be interesting to note that one large manufacturer made an announcement recently that in order to alleviate, to a certain extent the shortage of tin existing during the war, his company introduced a hard-metal substitute which has given satisfactory results in its use as a babbitt metal. Another large manufacturer adopted a lead babbitt containing 78 per cent lead, 14 per cent antimony and 10 per cent tin. According to a French report, tests were made on anti-friction metals consisting chiefly of aluminum, cadmium, magnesium and zinc. These alloys were designed to reduce as far as possible the

use of tin, copper, lead and antimony. It is stated that the most satisfactory results were obtained by a compound of 63.3 per cent zinc, 21.3 per cent tin, 12 per cent lead and 3.3 per cent copper.

In Germany, because of lack of tin, an alloy of cadmium, lead and mercury is being used in place of solder. This solder, if used on food containers, is probably toxic.

In the opinion of H. W. Gillett, chief alloy chemist of the bureau, there is no material which can be directly substituted for tin in any given formula and produce the same result. The substitution is that of one alloy of certain physical properties for another alloy of similar properties. The two alloys need not have any constituent in common.—Bureau of Mines Minerals Investigations.

Import Restrictions Removed

The War Trade Board announces that, on and after May 28, 1919, applications will be considered for licenses to import tin ores and tin concentrates, subject, however, to the following conditions and limitations:

1. That such licenses will permit the transportation only of shipments made from points of origin on or after June 8, 1919; and

2. That such import licenses will not be valid for entry until July 1, 1919.



Photo by Harris & Ewing.

H. Y. SAINT

Head of the U. S. Shipping Board's Coal Department

SHIPPING BOARD CREATES NEW COAL DEPARTMENT

The creation of a new department to be known as the Department of Coal Exports was announced today (Tuesday) by the United States Shipping Board. It will be under the direct control of the Division of Operations, of which John H. Rosseter is the Director.

In a statement issued today, Mr. Rosseter said he had selected Mr. H. Y. Saint, of Seattle, to be in charge of this new department; that Mr. Saint, who has accepted the appointment, will call a meeting to be held in Washington, Thursday, May 29 at 10.30 a. m. to which producers, shippers and exporters of coal are invited for a general and preliminary discussion of the export coal situation and for suggestions as to the best means of employing Shipping Board tonnage to aid in the development of that trade.

"The Shipping Board," Mr. Rosseter said, "is greatly interested in developing American coal exports, but as so much of our tonnage had to be devoted to food relief service we have not had the necessary ships to adequately serve the trade. Happily, the time has now come when we can plan in a constructive way for the development of our coal exports, and recognizing the importance of this work, and in order to carry it forward, the Board has authorized the creation of a new department of the Division of Opera-

tions, to be known as the Department of Coal Exports.

"After a very careful canvas of the field for a man with the necessary qualifications and at the same time unbiased by any connection with the industry itself, we have selected H. Y. Saint, formerly Director of the Foreign Trade Bureau of the Seattle Chamber of Commerce, to take charge of the new department.

"The Department of Commerce, the Fuel Administration and the Foreign and Domestic Trade Bureau of the State Department have been requested to cooperate with the new Department of Coal Exports."

RESTRICTIONS ON EXPORTS OF SILVER ARE MODIFIED

The Federal Reserve Board announced on August 15, 1918, that licenses for the export of silver would thereafter be granted only for civil or military purposes of importance in connection with the prosecution of the war and only in cases where the exporter certified that the silver to be exported had been purchased at a price which did not directly or indirectly exceed \$1.01½ per ounce 1,000 fine at the point where silver is refined in the case of silver refined in the United States or at the point of importation in the case of imported silver. The occasion which required the above limitations on the export of silver having now passed, the Federal Reserve Board will hereafter, unless a governmental necessity should again arise, resume its former policy of granting freely and without condition all applications for the export of silver bullion or of silver coin of foreign mintage.

This change of the policy of granting licenses does not do away with the necessity of filing an application for licenses to export silver bullion or silver coin of foreign mintage. Such applications must, as heretofore, be filed through the Federal Reserve Bank of the appropriate district, but such applications will, as stated above, be freely granted by the Federal Reserve Board.

The Secretary of the Treasury does not contemplate any further sales of silver under the Pittman act, except to the Director of the Mint.

Would Reduce Costs

Japan is beginning to realize the necessity of organizing her iron and steel manufacturers in order to reduce costs. It is also reported that the Government is contemplating import duties to protect the home industry, and subsidies sufficient to permit competition in foreign trade. The Hanyang Iron Works of China, under Japanese supervision, are being enlarged to produce 280,000 tons a year.—Bureau of Mines Minerals Investigations.

FUTURE OF SILVER IS GOOD— CONDITIONS RESULTING FROM WORLD WAR CREATE PROMISING MARKET

The following article, prepared by S. M. Soupcoff, a well-known Salt Lake mining man, for the Salt Lake Herald, contains so much of interest to American producers that the MINING CONGRESS JOURNAL takes pleasure in giving it further publicity:

As Utah ranks second as the largest producer of silver in the United States, the mining men of this state are naturally interested in the future outlook for the white metal.

The largest real producing silver camps in this country and Canada are Tonopah, Nev., and Cobalt, Ont. These camps were both discovered about the same time and for a while were phenomenal producers of the white metal. The production from both of these camps in recent years has somewhat declined, and speaking about 1918 operations, E. P. Earle, president of Nipissing Mines, Ltd., said in part: "Development of new ore did not make up for the large production, so there is some decrease in ore reserves, which now stand 6,000,000 ounces."

What has been stated above by the Nipissing management can, in a sense, be said concerning all the properties operating both in the Tonopah and Cobalt districts. These silver mines are on the decline and the peak of their production has been reached and passed. A second and more important source of silver comes from the argentiferous lead ores mined in Utah and Idaho.

Park City, Utah, and the Coeur d'Alene district in Idaho are excellent examples of mining camps producing ore of this particular character. These ores are shipped to smelting plants and the silver produced is marketed by such firms as the American Smelting and Refining Company and the United States Smelting and Refining Company.

A third source comes as a by-product from the large mining companies, such as the Utah Copper Company and the Anaconda Copper Company, which produces annually 12,000,000 ounces. The production of silver from this latter source has been somewhat diminished due to the curtailment of copper output, which in some places has been reduced to 40 per cent of normal capacity.

It must be taken in mind that the production of copper and lead bear an extremely important relationship to the production of silver, and naturally a serious curtailment in output of the above-men-

tioned metals has a tendency to reduce the output of silver, which is exactly what is taking place today.

WORLD'S SILVER PRODUCTION

Statistics with reference to the silver production of the world show a gradual decline. The only real source available to increase the output seems to be Mexico, which normally can produce 50,000,000 ounces per annum.

If the present price of this metal prevails and conditions become peaceful in our southern neighbor, this output unquestionably can and will be increased.

The following is the world production of silver, in ounces:

Year.	Ounces.
1910.....	221,715,763
1911.....	226,192,923
1912.....	224,310,654
1913.....	223,907,845
1914.....	211,339,749
1915.....	179,753,978
1916.....	175,933,000
1917.....	164,000,000
1918.....	180,000,000

United States production:

1913.....	66,801,500
1914.....	72,455,100
1915.....	74,961,075
1916.....	72,883,800
1917.....	71,727,647
1918.....	67,800,600

SILVER FIGURES IN NATIONAL AFFAIRS

The average price of silver for fourteen years, 1903 to 1916, was 57.52 cents per ounce. During April, 1918, Congress passed what is known as the Pittman bill, which established a maximum price of \$1.01½ for silver per ounce. This was done at the urgent request of Great Britain, who was compelled to secure enormous quantities of the white metal in order to restore and maintain the financial balance of India.

This bill, which also permitted the melting of the Sherman silver dollars, should be a factor in stabilizing the price of silver for years to come at \$1 per ounce.

Although the passing of the Pittman act was a necessary war measure, and was responsible for solving a very bad financial dilemma for Great Britain, nevertheless it has already accomplished its purpose and should be superseded by a law which would place the price of silver varying according to the natural economic law of supply and demand.

It is claimed by some very eminent financial authorities that the silver at present being exported from our country and which has been purchased at \$1.01 $\frac{1}{8}$ is being utilized in order to settle far eastern trade balances at the rate of \$1.30 per ounce. If this above condition be true the American silver producers are being imposed upon by British bankers, and this injustice should be corrected.

That a shortage of silver exists is undisputed, and the following statistics with reference to the world demand should be appreciated by those mining this metal:

The yearly demand for silver is as follows:

	Ounces.
Subsidiary coinage.....	60,000,000
Arts.....	75,000,000
India.....	150,000,000
China.....	40,000,000
Africa.....	25,000,000
Total.....	350,000,000
Production.....	180,000,000
Shortage.....	170,000,000

SILVER NATURAL METAL

Heretofore England has settled her trade balances with India by means of gold. At present England cannot permit the exportation of this noble metal, as it would jeopardize the foundations of her financial structure upon which she has reared a \$20,000,000 credit. Therefore if trade balances are to be settled by means of metallic coin, silver will be the natural metal used for this purpose.

The above statement alone has considerable bearing upon the future of silver due to the fact that previous to the war India absorbed \$150,000,000 yearly in gold, which must at present be settled with silver. Then, again, subsidiary small paper money issued by European governments during the war will be replaced by silver, and if not replaced at least be made a basis for its issuance.

The usages in arts and industries of silver and its chemical compounds have immensely increased. Who would think that at least 15,000,000 to 20,000,000 ounces of this metal is being utilized in photographic and moving picture industries per annum?

In conclusion, it can be safely stated that the future of silver is exceedingly bright. Ex-Senator Guggenheim, in a recent report to the shareholders of the American Smelting and Refining Company, said: "Authorities on the silver market agree that the price of this metal will be maintained at a dollar for a prolonged period."

Senator Reed Smoot, the future chairman of the Senate Finance Committee, recently at a meeting of mining engineers said: "Remove the restrictions on the price

of silver and it will have a mighty good rise in value."

Professor Fisher of Yale was recently quoted as saying: "Gold will not return to circulation; there will be no great outflow of gold through international trade." If Professor Fisher be right in his prophecies, then part of all of our foreign debts, and interest due us from European nations accruing on our foreign loans, if settled by real metallic money, should in a large sense be settled by the use of silver.

To summarize the actual outlook for the future of silver, one can say with a diminishing output and increased demand the market for this metal will be particularly good for some years.

MINERAL RESOURCES REPORT

TO BE ISSUED ABOUT JULY 1

A preliminary report on the mineral resources of the United States for the calendar year 1918 will be issued by the Geological Survey about July 1.

Most of the statistics of mineral production compiled by the Geological Survey have been made public in the form of press bulletins or of separates dealing with individual commodities long in advance of the appearance of the final two-volume work on mineral resources of the United States, nevertheless it has been thought for some time that the assembling of statistics for all mineral commodities in a single small pamphlet issued within six months after the close of the year to which the statistics relate would be widely useful to the mineral industry.

This pamphlet will not supplant any of the reports now being issued by the Survey. The report will contain general tables for all mineral products showing productions, imports and exports for the years 1917 and 1918, and in addition will contain for each of the principal mineral commodities separate tables showing production, imports and exports from 1913 to 1918.

Chicago Meeting A. I. M. M. E.

The American Institute of Mining and Metallurgical Engineers will hold its convention in Chicago, September 22 to 26. This meeting promises to be one of decided importance to the industry, as subjects of vital concern on modern metallurgy will be under discussion.

In addition to the technical talks, an elaborate social program is being arranged and excursions by the institute as a body are planned to many points of interest in the vicinity, including the steel mills at Gary, the oil refineries at Whiting, metallurgical plants at East Chicago and North Chicago, and to the LaSalle district, where the cement, coal and zinc industries are represented.

THE DOOR OF OPPORTUNITY¹

BY GEO. H. CUSHING

When I started from Washington for Cleveland I had no money, but I had some coal. So I arranged to pay my way in coal instead of in cash, with the following results:

The taxicab driver hauled me a mile to the station and I gave him 500 pounds of anthracite pea coal. For a ticket to Cleveland I gave the agent 6,448 pounds of anthracite white ash egg coal.

To the porter who carried my bag to the car I gave 125 pounds of anthracite pea coal.

To the Pullman conductor, for a berth to Cleveland, I gave 1,000 pounds of Lykens Valley stove coal. When I went into the dining car, in exchange for a table d'hôte dinner, I gave the steward 1,000 pounds of Tioga County, Pa., lump.

The waiter thanked me mildly when I handed him 150 pounds of Somerset County run of mine.

The most interesting part of my barter experience was the next morning when I went in to breakfast.

In exchange for five prunes I gave 350 pounds of Pocahontas mine run.

For two poached eggs I gave 400 pounds of New River mine run.

For two pieces of toast, upon which to rest the poached eggs, I gave 220 pounds of Tug River slack. For one cup of coffee I gave 135 pounds of Fairmont $\frac{3}{4}$ -inch lump.

When I got off the train I handed the porter a tip of 250 pounds of thick-vein Hocking mine run.

Wanting to know the latest developments about the League of Nations I gave a newsboy 18 pounds of thin-vein Hocking mine run for a morning paper. To the driver of the taxi for driving me to this hotel I gave 200 pounds of Massillon lump.

For a room at the hotel for one day I gave the clerk 2,000 pounds Solvay egg coke.

To the bellboy who carried my bag and key to the room I gave 50 pounds of Pomeroy mine run.

To the barber who shaved me I gave 275 pounds of Eastern Ohio slack.

For having my shoes shined I had to surrender 150 pounds of Jackson Hill lump and handed the waiter as a tip 150 pounds of the same coal.

For a package of cigarettes I gave 250 pounds of Eastern Kentucky mine run.

And, desiring to do the right thing by a thirsty friend, I persuaded the barkeep to give him a Bourbon whisky in return for 265 pounds of Jellico lump.

For the ticket to this banquet I gave the hotel 3,000 pounds of Youghiogheny mine run.

In a word, to get to this banquet I had to give away 18,406 pounds of various kinds of coal, or, about 9.2 tons.

This curious assortment is what the operators, under Garfield prices, had to surrender to get \$32.21.

If I had not been so foolish as to give away my raw coal so cheaply, but if instead I had first subjected it to a distillation process, I could have paid all of my bills with about 1,200 pounds of coal and could have put in my pocket to spend in Cleveland stores the sum of \$428. That is, by extracting only eleven easily obtained products I could have made each ton of coal worth \$50. Therefore, for the 9.2 tons I would have received \$460. My expenses were \$32. The profit to me would have been \$428.

In a word, I was as blind and as foolish as is the typical coal man who insists upon selling raw coal and upon complaining that he and his industry are poor. If instead of wasting our efforts on tears, lamentations and regrets, we spent some of it upon splitting coal up into its valuable products, the cash balance of the industry would be different. To be specific, from 10 tons of Fairmont slack I could easily have obtained: 13,000 pounds of coke, 1,000 pounds of breeze, 100,000 cubic feet of gas, 250 pounds of sulphate of ammonia, 140 pounds of sulphuric acid, 20 gallons of benzol, 40 pounds of toluol, 18 pounds of Prussian blue, 3 pounds of carboic acid and 240 pounds of fuel oil.

I need say no more. I was a dunce to sell my coal so cheaply. I admit it freely. By the same token, nearly all coal men are stupidly neglecting the pile of money which is under their eyes while spending their hours weeping over their poverty and calling upon God and the Government to witness their misery and their rage. Instead of clinging to their dirty raw coal and exchanging it for railroad tickets and hotel rooms, if they had translated it into its by-products and had sold those, ours would not have been such a four-faced and tear-stained industry.

So, when coal men come to me with eyes bloodshot from weeping and ask: "What is going to become of the coal business with its keen competition and its prices low," I point to this exhibit and say:

"Your salvation lies there. You can take coal which you are now selling at 10 pounds

¹ An address by the managing director of the American Wholesale Coal Association before the annual banquet at Cleveland, Ohio, June 3, 1919.

for 1 cent and make it worth 2½ cents a pound."

And, if you coal men cannot make money while doing that, I say unto you that you had better get out of business. You have mistaken your calling. Instead of trying to be a business man, you should become a college professor or a bureau chief in Washington.

I raise this issue now because we are on the threshold of an era when that sort of development is easily possible in any American business.

Prior to the world war the great opportunities in America were those of the pioneer. Wealth came to the man who could find and develop the deposits of natural resources. Ours was the crude stage in the industrial history of any people. The last generation lived in the last stages of the era of exploitation. Their first business in life was to find natural resources in quantity, to develop them according to some scheme—economical or otherwise—build the transportation lines away from those deposits; to lay out the routes of commerce, and thus, by tedious process of selection, to bind the natural meeting points in the country for the various raw materials—to establish manufacturing centers in short.

In that period and in that enterprise it is true that millions of money have been made. But it is also true that millions upon millions of dollars were ventured and lost in the same enterprise. For those lost millions there never has been and never will be any adequate accounting.

But today that old period of exploitation exists, as Mr. Taft says, as a reminiscence only. We now know where all the deposits of our natural resources are. They have been charted and even measured. The transportation lines have, in the main, been laid down. The routes of commerce have in the main been mapped out. The natural meeting points of various raw materials have in the main been discovered and located. The manufacturing centers have in the main been started. The pioneers in these respects are as nearly obsolete as the buffalo and the cowboy. The exploiter's profit is no longer available.

Today this great nation enters upon a new era. From now on ours will be the work of developing and expanding along the lines laid down by the last and preceding generation. We are no longer in the exploitation stage of our natural resources. We are on the threshold of the era wherein refined manufacturing and sublimated merchandising play their proper parts.

If this means anything at all it means that we have passed through the period where speculation as the keynote of a great industry brought its unavoidable toll

of waste and loss. We have entered the era where our business takes on an aspect of stability through having quit itself of its profligate tendencies. As far as concerns the customary processes and functions, this may, perhaps, mean less of profit per ton or per unit in widely separated periods, but it must mean more assurance of some profit on the ordinary turnover. As to the new phases of our industry, it must remain true that they will pay more. Without an attractive compensation, we do not get new things.

So I say that the speculative period in American business is gone. The era of sound and substantial development has dawned. This means only that we are through with the period of seed planting. We have come now to the gathering of the fruit.

COL. FRIES TELLS WHY CHEMICAL WARFARE SERVICE MUST CONTINUE

Lieut. Col. Amos A. Fries, of Edgewood Arsenal, is strongly in favor of the Government's continuing chemical preparation for war, which would mean continuance of the arsenal. He argues it is impossible to abolish with certainty, by agreement among the nations, such preparation throughout the world, because a nation planning war could use its commercial plants and laboratories without other nations being the wiser.

Colonel Fries also said chemical warfare was by far the most effective of all branches and that, except when nations are unprepared for defense, it is the most humane. He spoke from his experience in France, where he was in charge of the Chemical Warfare Service, with the rank of brigadier general, returning to this country in January.

"So far as I have heard, the peace terms contain no restriction upon preparation for chemical warfare," Colonel Fries said, "and I don't think there will be any such restrictions. It is practically impossible to make effective any agreement, which the nations might enter into, not to conduct chemical preparations.

"Commerce and industry involve chemical research to an astonishing extent now. Few people realize the extent. The Germans, in the front rank in trade and industry before the war, were in the front rank of chemical work, and in the beginning were better prepared to use chemicals in warfare.

"That is an example. With chemical laboratories attached to business and industrial concerns throughout the foremost nations, any nation that wanted to play false could arrange to convert these business concerns—dye concerns, for instance—into war concerns on short notice, and the other nations, having no way of knowing about this, would be at terrible disadvantage unless they had done the same thing.

"The thing to do is to realize and face the facts. Here is a weapon of war, of overshadowing effectiveness, which cannot be suppressed by fiat of any kind. We should protect ourselves by making the proper use of our advantages. We will not use it improperly, and we should be in position to prevent others using it against us.

"I know there is an opinion among many people that chemical warfare is the most merciless form of warfare. That is due to the conditions of the first German gas attacks upon the British early in 1915. The British had no protection against gas at that time; they knew nothing about it. And their fatalities were about 35 per cent of their casualties—meaning those killed or injured sufficiently to go to the hospital. But those conditions no longer obtain. After the introduction of mustard gas, which is nearly fourteen times as deadly as the gas first used by the Germans, the ratio of deaths to casualties among the British was reduced to 4 per cent, or a little less than that, because the British in the meantime had learned to protect.

"Now, look at the situation in the whole. You have a form of warfare, the preparation for which cannot be certainly stopped by agreement, no matter how diligently enforced. At the same time, it is a form of warfare which will knock out more men than any other form—might, in fact, speedily end a whole campaign—without killing nearly as many men as the other methods of making war."

Colonel Fries is a West Pointer, having been graduated April 26, 1898, on twenty-four hours' notice for service in the Spanish-American war. His service was in the engineer corps, prior to the war.

MINERAL INDUSTRIES STILL IN STATE OF READJUSTMENT

The mineral industry is still in a stage of readjustment. Markets are quiet and production is still largely curtailed. The various industries are gradually using up accumulated stocks, while the Government has been disposing of its supplies. Prices are reaching lower and more stable levels, and it is expected that conditions and production will improve. Building activity is being resumed. While prospects for foreign trade are improving and ocean rates are declining, the shortage of ocean bottoms is still acute. In the special mineral industries, such as manganese, potash, graphite and pyrite, which have been developed during the war, activity is very limited and many of the plants are closed. This condition will continue until it becomes evident as to what the movement and prices of foreign material will be.—Bureau of Mines Minerals Investigations.

WANTS DIVORCEMENT OF COAL INDUSTRY AND THE CARRIERS

The committees of Congress that are concerned have received the following from George H. Cushing, managing director of the American Wholesale Coal Association:

This letter is written in behalf of the American Wholesale Coal Association which comprises, approximately, 600 members whose working capital is approximately \$80,000,000 and who were in 1918 responsible for the distribution of approximately 200,000,000 tons of coal. I believe you will find that the sentiment expressed herein reflects the opinion and firm convictions of 90 per cent of all coal men.

You will, perhaps, agree that before proper relationship can be established between coal, the commodity—not merely the men who now and temporarily comprise the coal trade—and the people—not merely those who now buy and use it, but those who are to come—a great many existing conditions must be changed. In adjusting and readjusting a natural resource to the needs of a Nation, on the basis suggested, there must, of necessity, be a great many alterations of any program which is at first mapped out. It goes without saying that the coal men must change the methods by which they have done business since those are admittedly crude. The legislative body must, unquestionably, pass acts of regulation designed to direct the course of events so as to preserve a proper routine with respect to this natural resource. And the people must be taught to conserve coal and encouraged to practice economy.

With so much to be done, and with a program before us which cannot be worked out in less than a generation, the questions arise: Where shall we begin to do what is needed? What is the logical starting point for such a program?

You will, perhaps, agree that the first requisite is to make the coal industry as free as possible from outside influences.

That is, the coal men must be put in position where their policies are not dictated by other business concerns which have no proper interest in coal itself.

Therefore, I believe you will agree that the first requisite is to free the coal industry from dominance by those other industries which have, in a large sense, only a predatory interest in coal production and distribution—those who profit by the impoverishment of coal companies, or whose self-interest is advanced by continuing in coal a wasteful method of extraction.

I believe you will agree that the ownership and operation of coal mines by railroad corporations is essentially wrong in principle.

I believe you will agree also that coal cannot free itself from wasteful practices until it is freed from dominance by those railroads which profit by wasteful methods in coal.

I believe you will agree, therefore, that the first essential to a safe program in coal is to divorce railroad operation from coal mine operation and hence the complete destruction of any community of interests of control of railroads and coal mines.

In this connection, I wish to call your attention to the fact that we, as a people, are at a point where the form of control of our railways is about to undergo a radical change. They were formerly under complete private domination. They passed under detailed government supervision. They are about to be returned to a modified form of private control. All three of these changes have involved, or involve, at least an implied contract between the people and the railroads.

You will probably agree that to change the terms of a contract, in effect, destroys the old and sets up a new one.

If, therefore, we as a people are about to consent to a change of control of the railroads, we are on the point of making a new contract between the people and the railroads. I believe you will agree that we should insert, as a condition of that new contract, that the railroads are to be returned to private owners only if and when they have freed themselves from any control of coal property; any interest in coal lands or coal mines; or any connection with any banking house or syndicate which holds any coal lands, or owns coal mines in the interest of any railroad corporation, or which may control any railroad or railroads.

We believe that before coal can be put in that position of independence which will allow it to adopt effective measures of reform, there must be a complete divorcement of the coal industry and the carriers. We believe that the time to make this divorcement complete is when the railroads are returned to private control. We ask you to take this suggestion into account when framing the new laws regulative of the carriers.

Copper Stocks Accumulated

It appears that stocks of unsold copper are steadily accumulating. As of January 1, 1919, total domestic stocks exceeded a billion pounds; furthermore, it is reported that an additional 500,000,000 pounds is held abroad. There are consequently good grounds for believing that the world's stock of the metal is close to 1,750,000,000 pounds, a formidable figure.—Bureau of Mines Minerals Investigations.

C. H. JENKINS REELECTED

ASSOCIATION'S HEAD

Northern West Virginia Operators' Directors Choose George T. Bell as Secretary

C. H. Jenkins, treasurer of The Hutchinson Coal Company, was reelected president of the Northern West Virginia Coal Operators' Association at a recent meeting of the directors. Mr. Jenkins was the association's first president and also served in that capacity for the Central West Virginia Coal Operators' Association, the predecessor of the present association. George T. Bell, executive vice-president, was chosen secretary, and A. Lisle White, of Clarksburg, treasurer, succeeding C. J. Ryan, of Hepzibah.

SULPHURIC ACID LOOKS UP; SULPHUR STOCKS DIMINISHING

The outlook in the sulphuric acid business is encouraging, and it is predicted that a few months will see the industry back to a normal basis. The same may be said of the industries using sulphur exclusively.

The stocks of pyrite and sulphur in the hands of consumers are gradually being diminished, and it is expected that they will be in the market for new material in a short time. However, they prefer to hold off as long as possible before placing contracts, anticipating that much more favorable prices can be obtained than are now being quoted.—Bureau of Mines Minerals Investigations.

Description

A new circuit breaker, type "LRL" of 3,000 and 4,000 ampere capacities, has recently been put on the market by The Automatic Reclosing Circuit Breaker Company. This breaker is an electromagnetically operated circuit breaker, having the following characteristics:

(a) Breaker is closed and held closed by means of an electromagnet.

(b) Opens automatically in case of overload, short circuit or voltage failure.

(c) Remains open a definite time interval regardless of cause of opening.

(d) In case breaker is opened by a short circuit, the breaker makes no attempt to reclose while the short circuit exists, but closes instantly upon the removal of short circuit or overload.

Provision is made for adjusting the tension of the main brush by means of an eccentric bushing in the brush support.

This breaker is of very rugged construction and is particularly adapted to heavy duty work such as is met with in steel mills and street railway service.

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PERMANENT U. S. EMPLOYMENT SERVICE IS RECOMMENDED

Secretary of Labor Wilson has recommended to Congress the enactment of legislation creating a permanent public employment service for the United States.

In letters to Representative J. M. C. Smith, chairman of the House Committee on Labor, and to Senator Kenyon, chairman of the Senate Committee on Labor, he approved the general principles of a national public employment system unanimously agreed upon by representatives of the governors of the states at the employment conference held last month in Washington, and transmitted an outline of a bill embodying those principles.

The outline calls for the continuance of the United States Employment Service, developed during the war, as a permanent bureau in the Department of Labor and in charge of a director general appointed by the President, and a system of public employment offices, operated by the states and cooperating with the Federal Employment Service. The Federal Government would contribute funds to the states for the maintenance of their offices, which would work under standard rules and regulations prescribed by the United States Employment Service, the national service handling labor clearances between states, inspecting and gathering of information as to labor and employment conditions. At the conference which agreed upon this outline were representatives of thirty states, including nearly all the industrial states, and representatives of employers and labor.

In his letters to the chairman of the Labor Committee of the House and Senate Secretary Wilson said, in part:

"For many years there has been a growing recognition of the necessity for public employment offices through the assistance of which men and women out of employment may be able to learn of opportunities to work, which they could not find through their own efforts. That workers and employers need so-called labor exchanges has been demonstrated by the fact that it has proved highly profitable for individuals to operate such exchanges on a commercial basis. That such services to workers and employers should not be left solely to private fee-charging agencies has also been demonstrated. In order to make the operation of such agencies profitable they have to charge a fee for placing workers in employment. Such fees are exacted from those who can least afford to pay them and instances of abuse and extortion have been so frequent as to constitute an abuse known to all who are familiar with the situation.

"Inasmuch as the interests of the private fee-charging agencies are fostered by constant shifting of workers from one employment to another, they are under constant temptation, to which, unfortunately, they sometimes yield, to encourage restlessness among laborers and thus to increase the evils and economic loss which inhere in a large labor turnover.

"From the viewpoint of the industrial efficiency of the nation as well as of the individual welfare of the workers, it has proved to be sound policy to place the task of bringing together the worker and the job on a non-commercial basis. Furthermore, it is obvious that in order to enable workers in one community to know of positions open in remote localities and to enable employers who cannot find suffi-

cient workers in their neighborhood to take advantage of a surplus of labor existing elsewhere, it is necessary that there should be intercommunication between the labor exchanges of one community and among the various states. The only way this has ever been brought about has been through the action of the Federal Government.

"The need of an agency may to a large extent be gauged by the use to which it is put. By this test it would seem to be demonstrated that there is necessity for a national system of employment service offices. During the eleven weeks from the first of September to the week ending November 16, 1918, 1,158,792 workers were placed in positions through the United States Employment Service, an average of 105,000 a week. During the fifteen weeks after the signing of the armistice up to the week ending March 1, 1919, 1,282,543, or an average of 80,000 workers a week, found employment through the agencies of the Federal Service. During the eight weeks since the curtailment of this service, made necessary through failure of funds, 491,590 workers, an average of 61,000 a week, have successfully used the offices maintained under the supervision of the U. S. Employment Service in finding positions.

"It is obvious that all these men and women resorted to the Employment Service because they could not readily find work without its assistance, and that in the absence of some system of public labor exchanges would have had to seek the assistance of private fee-charging offices. I take it that the need for some system of public employment offices is well established and generally recognized, and that upon this point there can be little, if any, difference of opinion.

"In my judgment, the duty of maintaining a system of labor exchanges is primarily one which rests upon the municipality and the state. The expense, for example, of securing employment in New York City for men and women out of work there and of assisting employers there in securing labor, does not seem to me to be one which should be borne by those who pay taxes to the nation without contribution by the citizens of the State and City of New York. Not only does the obligation rest primarily upon the locality, but the local government is also primarily concerned with the efficient administration of the local offices and those who live in the locality are in the best position to observe and insist upon efficient local administration.

"On the other hand, the establishment and maintenance of an efficient system of local labor exchanges is a matter of natural concern. Just as the Federal Gov-

ernment has felt the necessity of encouraging, for example, the development of good roads in the various states, the extension of industrial training and the development of agricultural lands and perfection of agricultural methods, so the Federal Government has a like interest in the development of national efficiency through the prompt bringing together of workers seeking employment and employers seeking workers.

"Furthermore, the problem of an efficient employment service transcends state lines. An effective adjustment of labor supply and labor demand frequently means movements of workers from one state to another. The Federal Government is the one power which can secure sufficient uniformity of method and interchange of information to accomplish the required results. The United States Employment Service, for example has been instrumental in transferring between states an average during the year of 1919 of over 8,000 workers a month.

"The goal towards which the proposed legislation is aimed is a locally operated system to which the Federal Government contributes an amount equal to that contributed by the state, the federal contribution being conditioned upon compliance with uniform rules, regulations and standards of efficiency required by the national service. For such a system, numerous precedents exist.

"Existing conditions, varying largely in the different states, and the immediate national necessity of meeting the problems of soldier replacement and industrial readjustment complicate the attaining of such an ultimate system. Many of the states have not as yet realized the responsibility for establishing public employment offices and in them no state system exists. In a number of others there is a state employment system but one which is entirely inadequate. At the present time in only a very few of the states are conditions such that the ultimate conception of an employment service which has been set forth, can be put in operation at once."

German Steel Production

Figures on the German production of iron and steel, including 1918, have been released. They showed more or less uniform amounts during the past six years and were only slightly affected by the war.

Prices on pig iron and steel have risen in Germany, an encouraging condition to the allied countries, indicating that Germany has been unable to keep down high costs and thereby gain an advantage in post-war trade.—Bureau of Mines Minerals Investigations.

PLANNING FOR POWER

By GEORGE OTIS SMITH

Director, United States Geological Survey

The relation of Government to business is in itself a topic too large for your three-day program, and I will therefore limit myself to the simple thesis that planning for the general welfare is a proper function of government. In the long years of public experimentation with business the restriction of excessive growth has been attempted by large and bitter doses of anti-trust prosecutions, followed by prescriptions of more direct regulation, and, concluding the series, we trust, by several governmental operations under the anesthesia of war. Fortunately, however, the patient has survived each course of treatment, and while our financial and technical journals are full of interesting fever charts that graphically tell the story of the depressing reactions of the past, American industry and American business still live. Before abandoning this figurative diagnosis of the case I may add my personal conviction that Uncle Sam as a doctor has on the one hand given too much medicine and performed too many minor operations and, on the other, paid too little attention to the patient's diet and exercise. In other words, supervision of industry can and should be constructive as well as restrictive.

There has been, fortunately, some progress in our ideas of what is the true relation between Government and business. Governmental cooperation with business is the next step. Industry itself is indeed co-operative and social by nature, and the bigger "big business" becomes the greater in its need of socialization in the true sense.

In manufacturing, as in public service, the trend must be not toward price lowering through competitive marketing, but toward cost-lowering through competitive effort for efficiency. The operating official—the superintendent at the works—and not the sales manager may be the man who has most to do with the future success of the business. The idea that competition is productive of low prices has been over-emphasized in our laws because public opinion has believed in that way of keeping big business under control—but average prices cannot for any very long period be lower than average costs. The government bureau, board or commission that

seeks to protect the consumer will do well to help in the organization of industry in lines that will work out lower costs. And such planning must be on a national scale. As the efficient executive of the street railway system keeps before him a map of the city or district served, on which he plots the details of growth and of future needs, so the federal administrative officer must plan for the future with the same foresight; and planning of this type is properly a function of your Government at Washington.

These are days of "changing gears" on the big industrial machine of our country. Under the war-speed conditions we took everything on "high," regardless of either economy or safety. Now we have slowed down to "look and listen," and business must decide what speeds are best suited for the long pull ahead. The time is therefore opportune for broad planning, and there is no more urgent need than that of a power program.

A year ago, you may recall, the war boards at Washington outlined on the industrial map of the eastern United States, an area of high pressure, a danger zone, where mills were overloaded with work and railroads were congested with freight. Fuel famine and power shortage had been threatened, and drastic action seemed necessary. Within that area, half a dozen rail gateways absolutely limit traffic, so that even now, with the war stress no longer active, the internal strain still exists in the transportation and industrial system of the Boston-Washington zone. Restriction of industry was the wartime remedy proposed; electrification is the peace cure.

To tell the National Electric Light Association at its forty-second annual convention that electric energy is man's best servant may be too much like "carrying coals to Newcastle." However, my purpose is to sum up some of the outstanding facts in your business which ought to appeal to the general public, for whether we are public service officials or public servants, we are all American citizens interested in the public welfare. As I see it power is the great industrial need of the day; without it the speeding up of our

nation in its recent great effort to help save the world would have been impossible. Try to think of our war-time program in terms of unaided human energy; even as it was our great transportation systems almost broke under the task. The transportation of raw materials and manufactured products even in peace times calls for herculean energy—a power demand measured by more than 5,000,000 continuous horse-power. Compare, if you will, the energy of the coolie crossing the mountains of central China with his back-load of tea and the energy of the electric locomotive hauling copper from mine to smelter or ammunition from Bridgeport to New York, and you realize what electric power means in transportation.

In terms of cost, the best figures available indicate that motive power accounts for fully 30 per cent of the expense of operating steam railroads and for about 10 per cent of the well-managed electric railways. Aside from this difference in power cost, electric energy must be credited with the greater efficiency it makes possible. A western railroad president once told me that his road, on its mountain divisions, had reached the limit of train loads because the size of the locomotive was limited by the size of firemen who could be employed. The electric engine places no such burden of toil on its operator, and electrification gives a much greater capacity to the same line of steel rails.

The power element is smaller in manufacturing than in transportation, but not less important. In the making of cotton cloth about 2 per cent of the value of the product can be charged to power, while in the production of electrolytic zinc the power cost is around 12 per cent. In general, 2 per cent may be taken as a conservative figure for the power item in total manufacturing cost, and this may seem almost negligible, but the wider use of power in mills and shops has a larger effect than is measured by its own cost—the kilowatt hour may double the product of the man hour, and men cost more than kilowatts.

Electric power, as furnished from the large central stations, is favored by that happy economic law whereby the load factor works both ways. Lowering the cost of electric energy invites greater use, and greater and more diversified use permits lowered cost. That is no vicious circle; it is the virtuous upward curve of progress.

The future of power use is so encouraging that I dislike to pause and speak of the less attractive present. The story of wastes in our national career is not a pleasant one. American pride prefers to dwell upon those things that America does well; we have much to be proud of in our

record of invention and construction and operation—indeed, the term “electrical” seems to describe something of purely American origin that has to be translated into the life of other peoples. Yet here in its birthplace and home the electrical industry is not as efficient as it should be. Your best engineers see the trouble—the growth has been so rapid that we have given too little thought to systematic development. Wonderfully well thought-out units are scattered here and there, but these are widely separated islands in a sea of poorly planned or obsolescent plants.

The net result of this lack of system is that we permit wastes which are large items on the wrong side of our national ledger. You gentlemen know far better than I the wide span between your best records in large up-to-date central stations and the results obtained in smaller and often obsolescent private plants. Measured by coal burned to the kilowatt-hour the ratio is 1 to 2 or 3, or even more. Where also do we find such opportunities to cut down the coal bill? We can see even greater savings when we consider the advantages of hitching up American rivers and American coal—they work best in double harness. I appreciate as you do the wide difference between the initial expenditures involved in the two types of plants, and I realize also that the steady stream of so-called fixed charges flows through the hydro-plant whether it operates or not, yet I believe that we are far from making full use of the water powers that lie undeveloped within easy transmission distance of our largest power markets. It is, moreover, time to count the rising costs of labor in the steam plant, where the coal miner as well as the fireman is an employee in fact, whether you see the miner's name on your pay roll or not. The figures presented by the Alabama Power Company in its comparison of steam plant with hydro-plant show the ratio of men employed as 84 to 1. Conservation of human energy calls for the immediate and full development of every water power that is feasible.

In comparing the efficiency of the steam locomotive with that of the electric motor, I think of the switching engine as a self-contained power unit having the worst possible load factor. Here the difference at once translates itself into increased coal consumption and we find one ton of coal converted at the central station into the electric energy delivered to the electric motor doing the work of four tons shoveled under the boiler of the locomotive. Even with the better load factor of the passenger locomotive, there is little room for difference of opinion when we learn that the Merchants' Limited requires only half as much coal per mile between New York and New Haven as between New Haven and

Boston. Can we afford to burn two tons of coal where one will pull the load?

The Secretary of the Interior offers a power program and his program is inspired by a vision of future needs. He regards the almost insatiable demand for power created by war industries as foreshadowing future danger of power famine in the industrial districts of the north-east. The signing of the armistice happily averted the power crisis that otherwise we would now be facing. Now, however, a policy of preparedness for peace expansion should be adopted.

This administrative officer's recognition of the urgency is, then, in full harmony with that definition of vision quoted by a leading engineering corporation: "Experience is the only prophecy of wise men." Secretary Lane looks upon the present relief from power famine as only temporary. In his statement to Congress he said: "In a few months, and especially in the regions mentioned, I anticipate a greatly increased demand for energy, for which present facilities are inadequate. This demand will follow the resumption of industry under the operation of normal economic laws and in the face of international competition, factors that have been largely imperative during the war. If the country is to reap the full benefit of this returning wave of activity it must be prepared to furnish industry and transportation with an adequate, dependable, and economical power supply. Only by increased economy in the production and distribution of power will it be possible for our manufacturers to decrease their production expenses and compete successfully in the world's markets, maintaining at the same time the American standard of wages and living."

The subject is ready for investigation. The history of electrical development can be found in the files of technical and trade journals; census reports and reports of state public-service commissions contain carefully compiled data from which can be painted in somewhat broad lines the picture of conditions of demand and supply. Yet we lack many of the basic engineering facts upon which intelligent planning may rest. To fill this need the Geological Survey has undertaken a power survey of the United States. This survey is economic in its aim; it seeks to learn the facts relative to the sources from which power may be obtained and to compile all the facts relative to the existing plants, the quantity of power produced, and the growth of power requirements. The Secretary of the Interior has asked of Congress two appropriations, one of \$50,000 for continuing this power survey covering the whole United States, which was begun in cooperation with the Fuel Administration and at its request, and the other of \$200,000 for an intensive survey of the region where power requirements are most congested. I have

already referred to the broad outlook of the public utility official who constantly watches the changing demands of his city, and now Secretary Lane proposes with the same purpose to study power conditions in the whole country, so that we may all see the picture of present conditions and the possibilities of future growth and may be able to plan to meet that growth with the greatest economy to the Nation in fuels, labor, and materials. As the first field of work, he has selected that area of maximum power density which he has chosen to call the North Atlantic Industrial District, an area that has somewhat indefinite geographic boundaries but that is clearly defined industrially and economically. In this area, extending from the vicinity of Boston to that of Washington or Richmond, and covering 50,000 square miles, is concentrated one-fourth of the power generating capacity of the whole country.

The need of knowing the facts is realized when we try to measure even present power requirements, not to mention future demands. The Boston-Washington region uses 600,000,000 kilowatt-hours a month, most of it derived from coal. The central stations alone consume fully 10,000,000 tons of coal a year; add to this say 25,000,000 tons for the railroads in this area, and we begin to appreciate in a general way the part coal plays as a source of motive energy.

In conducting these inquiries the Geological Survey must, of course, rely upon the cooperation of the electrical industry and, as was expected, this cooperation has been almost universally given. The Survey's analysis of February operations representing over 92 per cent of the output of the country. You will realize that a monthly report of the country's power output makes the most sensitive of business barometers, for unlike coal and steel records it is unaffected either by any carried-over surplus or by orders for future use.

I trust, too, that this cooperation is not one-sided, for the government bureau is in a position to assist your industry in many ways. I may mention one way: The manufacturer seeking a location for a new plant comes to the Geological Survey with his statement of requirements in raw materials, transportation, power, and labor. From the knowledge obtained from you gentlemen this government bureau is able to suggest localities where he will be likely to get power at reasonable rates and to refer him to several power companies that can meet his requirements. The average manufacturer seeking power is today very much in the dark, and any clearing house where the industrial man can be introduced to the power man and where the only wish is to do both a service must be of real value to the industry.

I have said that the proposal of the Secretary of the Interior is one of broad planning for the future power supply, but the facts that would be gained from such an engineering study are of course not yet available. My own picture of the super-power system that would effect the economics demanded by the rapid growth of this industrial region includes a multiple transmission line of high voltage with its thousands of steel towers extending from Boston through our Eastern States, crossing the Connecticut near Springfield, the Hudson at Poughkeepsie, the Delaware, near Easton, and the Susquehanna, below York, and so on to Washington and Richmond. Into this unified system large-unit steam-electric stations at tide-water and near the mine mouths and hydroelectric stations—twenty or more—at old and new sites would deliver energy as required, and from this great power main would flow the energy to serve a score of railroads, hundreds of public service companies, and thousands of manufacturing plants.

As one of my engineer friends remarks, this project would appear a "large order," and at first it staggers the imagination, but such a super-power line extending from Boston to Washington cannot be termed only a dream. Secretary Lane has pointed out that in his own State of California there are systems of electric transmission comparable with this in length if not in capacity. If you take your map of the United States and make the West move East—which I admit is contrary to human experience—you can take one end of an existing trunk power line, which is at Tonopah, Nev., and lay that on Boston, and then the other end of the line, which is actually at Yuma, Ariz., can be placed at Norfolk, Va. What we dream for the East exists in the West, where the extreme tentacles of one system of interconnected power plants now have a reach of nearly 500 miles.

The investigation of such a project demands the best engineering talent of the country, and Secretary Lane's desire would be to seek the full cooperation of your industry, thus linking up with the public servants in his department the engineers in private practice or corporate employment whose experience is absolutely essential in considering so complicated a plan. The public interest in such an interconnected power supply is preeminent, but whoever suggests that the project is one for the Government even to investigate independently neither appreciates the magnitude of the scheme nor realizes the limitations which hedge about a government bureau. If Congress authorizes this engineering study your cooperation will be sought because needed.

There is danger in grand totals and in general averages. The actuary's figures

on the expectancy of life mean little to the sick man who knows that his days are numbered, and so to the coal consumer on the Atlantic coast the average life of America's great coal reserves means much less in dollars and cents than the approaching exhaustion of the fields that lie nearest his boiler house. As a nation bounded by the two oceans we own 55 per cent of the world's coal, yet the tonnage remaining in the great producing fields of the East is so limited as to make coal saving a topic deserving the best thought of those concerned in power generations. And coal from the more distant fields will be more expensive coal.

But Secretary Lane's power program means more than saving in coal; it means saving in man power. One outstanding lesson of the war was the value of the workman behind the lines, and labor shortage became one of the limiting factors in the industrial support which we were able to give to our soldiers in France. Skilled labor is a resource, in which no nation is richer than America, but this human resource also deserves to be conserved. It is an axiomatic truth—not however known to all peoples—that the modern machine multiplies man power, and the increase in our use of mechanical energy is a true index of the ever larger value we are giving to the workman behind the machine.

So this program that calls for "an adequate, dependable, and economical supply of power" is a program of national thrift; it involves the best use of both material and men. The electrical engineers and the business executives of the great public utilities can see with clearer vision than mine all the benefits that will come with a largely increased use of electric power—what its value will be to industry, when cheap energy is distributed over the length and breadth of the industrial zone between Boston and Washington. In no way can we better prepare ourselves for the period in the world's history that may come to be known as the industrial renaissance.

Meeting the need for cheap power, however, has far more than a local significance. Cheap power is already an asset of the first rank to any country in the international contest for world markets. With the strategy of war fresh in the mind, we may look upon this Atlantic seaboard industrial region as the American front trench in the commercial rivalry among nations. This is the reason that Secretary Lane, while asking Congress for a general survey of the power resources of the whole country, wishes also to make this more intensive study where the need is greatest and most urgent.

America's comrades in arms, France and Great Britain, are wide-awake to their peace needs. They recognize cheap power

as a key to the markets of the world, although the reference in British reports to the electrical industry as a "key industry" doubtless means that electric power is the keystone in the national industrial arch. Already, in England, five official commissions have submitted reports on the question of power development, in which they emphasize the national importance of cheap power as a vital requirement. They consider electric power as essential as labor and material in economic production. They reiterate that in England less power is used by certain industries than is used by similar industries in the United States, where the larger net output per operative employed and the higher rates of wages show the advantage both to capital and to labor.

In working out their national program these British commissions condemn the existing provincial and parochial systems of generating and distributing electricity and urge a centralized and unified power system as the only method of conserving their coal supply by getting the fullest value from every ton consumed and thus furnishing cheaper power to the industries, large and small.

Our interest as citizens in these plans for cheaper energy is far more than a commercial interest. Public service is a term that has come to attach itself to your industry, and not without reason. The organization of the Nation's business to obtain the lowest costs is distinctly a matter of public service, in which corporation and government bureaus may well join efforts, but success in this organization of industry is not to be measured in dividends alone. Tomorrow prosperity must mean profit-sharing on a thorough-going scale, in which we shall all receive in proportion as we have served. So the industrial program which emphasizes mechanical power is the most effective assurance of better conditions for all who work in this busy world of ours. To improve living conditions for all our citizens must be the aim of those to whom is given the privilege of leadership in industry. Secretary Lane has said that "upon our shoulders rests the burden of proving that free government can live. America is the ultimate citadel of human liberty."

Someone recently referred to the craftsman days—the era of the cathedral builders when men sang at their work because they found joy in it. Yet even in those seemingly golden days of the past there was toil, and much of it of the kind that raised no song to the lips. Is not the present day nearer the golden age of human labor? The man on the farm tractor is more likely to sing at his work than the man with the hoe or that toil-bent couple pausing to listen to the Angelus. So, too, the electric current that makes human

labor more productive can also give the workman time to think and sing. To make this America of ours a better place to live in is the program for the electrical industry; that is your part in public service.

SPAIN WILL MAINTAIN

QUICKSILVER SUPREMACY

Spain is the most important quicksilver-producing country in the world and will be able to maintain this position indefinitely by reason of its possession of the largest and richest deposits known, those of Almaden. The average mercury content of the ore of that mine is 9 per cent, as compared with 0.5 per cent, the average of the ore mined in the United States. Current domestic market prices are little above the domestic cost of production, while Almaden is able to produce at a cost of \$16 per flask of 75 pounds. The output is contracted to the English Rothschilds at about \$34 per flask. During 1916 Almaden increased its production, and the number of quicksilver mines in Spain increased from seventeen to twenty-two. The production of ore from the mines of the province of Oviedo increased, while that from Granada decreased.—Bureau of Mines Minerals Investigations.

MANY ALIEN WORKMEN PLAN

TO LEAVE U. S., SURVEY SHOWS

Inquiries by the Investigation and Inspection Service, Department of Labor, into the number of aliens who contemplate returning to their native lands reveals that a large number plan to return as soon as steamship accommodations are obtainable. The work of the Service in this investigation has covered a large number of industrial centers, and it has been found that centers of the steel industry, in particular, have large numbers of aliens who want to return to Europe. The reasons for this are that in the steel industry the number of aliens employed is larger than in most others, and that unemployment is general in steel centers.

Reports from field agents to the Hon. Ethelbert Stewart, director of the Service, indicate that contrary to general impression there has been no propaganda of importance conducted by steamship agents, for the reason that the steamships already have all the traffic they can handle. The foreign language press and clergy have been almost as a unit opposed to the expected exodus. Already large numbers are going, and many more aliens intend to go as soon as steamship space and passports can be obtained.

The agents of the Service have found that literature from Europe urging aliens to return has been neither widely distributed nor influential. The principal cause for the flow of emigration that has already begun is the desire of aliens here to learn what has befallen their families in their native lands. Many aliens have

told investigators that they have not heard from their wives and children for four years. They have sent money home but have no means of knowing whether it has been received. Another important cause of emigration in certain sections is the desire to participate in the settlement of estates of relatives killed during the war.

Apart from family or financial interests in Europe, probably the most important cause of emigration, so far as the investigators have determined, is unemployment, which is still severe in certain sections of the country. There is also the desire on the part of many foreigners to return to the lands just freed from German or Austrian domination, for they believe that opportunities will be better in the new democracies than in the United States.

A great deal of detail has been collected in connection with the emigration. Figures from many cities show that fully 50 per cent of the aliens of certain races intend to go back to Europe. A large number of these fully expect eventually to return to America, but others say that they do not want to come back here. In the case of many, it is probable that conditions abroad will influence their decision in one way or the other.

The clergyman of one foreign church with 1,600 parishioners expected not more than 100 to remain in this country. In an Indiana city with a large Roumanian population, from 40 to 50 per cent want to return to their homeland, Transylvania. Few Poles in the same city expected to return, but 150 of the 600 Serbians wished to go, and it was said that if unemployment became more serious the number would be increased. Already 150 Italians and 100 Greeks have left this city. The numbers are large in view of the size of the Italian and Greek population.

An investigation by a steel plant showed that 66 per cent of its alien employees were married and that 64 per cent had their dependents in the Old Country. In this plant, 61 per cent of the aliens declared their intention to return, and of this number 91 per cent said they were going to stay. Only 9 per cent planned to return only for a visit. This investigation, privately conducted, confirms the inquiries made by the Department of Labor.

A prominent Hungarian of Chicago estimated that 30,000 unnaturalized Austro-Hungarians live in that city and that 50 per cent would go back to Europe. In a Connecticut city with a Polish population of about 6,000 from 1,500 to 2,000 expect to return.

Among Lithuanians there is a strong feeling that if Lithuania becomes independent there will be a large movement back to that country.

The figures given are taken almost at random from a large mass of material gathered by the Investigation and Inspection Service. A typical letter from a steamship company, showing that emigration propaganda by such companies is practically negligible, recites that only Albanians, Croats, Serbians and Dalmatians can be accepted for transportation

by that line and that since the company could not say in advance whether its steamships sailing in May would carry third class passengers, no reservations for passage could be made until the steamers reached port here.

The activity of the foreign press in the matter has been on the whole one of consistent opposition to emigration, and the same holds of many prominent men among aliens. A group of representatives of foreign language papers and of clergymen in churches attended by foreign-born residents has urged government supervision of steamship lines to prevent propaganda on their part.

The service has received a summary from its field agents in a large city of the Middle West, giving details as to contemplated emigration of aliens to Europe from that city, according to nationalities. The summary is made up as a result of extensive inquiries which aimed to determine the probable extent of emigration and its causes.

Among Poles, the opinion was that even if Poland should become free, most Poles will remain in America, though many may go to Europe temporarily to look up relatives or property holdings. Among Lithuanians, the feeling was that the unmarried Lithuanians who have property in this country would remain here rather than risk the uncertainties abroad, but that representatives would be sent back to bring word of relatives or friends.

Russians, it was reported, were almost universally dissatisfied, and anxious to return to Russia. Among Jugo-Slavs, prospects of emigration were not large, but it was expected that Magyars (Hungarians) would return in large numbers, Roumanians also were eager to return; in fact, it was reported that nearly all were going back. The Roumanians have become little adjusted to conditions in this country, and of a parish of 3,000, not more than 100 were expected to remain.

Many Ukrainians want to go back, but the political situation in the Ukraine is an important factor. There are a great many unmarried Ukrainians in the city mentioned, and these men are naturally more or less free to remain or to go. There is much talk among the Greeks of returning, but the number who will actually go is not expected to be so large as was at first anticipated because during the war many have married and now consider themselves established in America. Among Italians there is in normal times a considerable movement to and from Italy; and no important exodus is looked for.

A similar summary, collected from investigations among steamship agencies in the same city, indicated that many Russian Jews want to return to Russia. There have been many requests for passage from Greeks and Italians. More Poles were inquiring for tickets than before the war. Several steamship agents expressed the view that aliens would remain here so long as work could be had.

THE COAL EXPORT SITUATION

Protection of American coal producers and exporters from foreign domination was the plan of the American Mining Congress in the recent organization of its "Coal Export" Committee. Director Manning of the Bureau of Mines had a plan which included allocation of tonnage for the industry. The Fuel Administration, the Shipping Board, the National Coal Association and the American Wholesale Coal Association each proposed programs more or less differing from each other, and the American Mining Congress with some hesitancy undertook to bring the promoters of the various plans together.

The following report of the first meeting of this committee in New York is taken from *Coal Age*:

"A meeting of the Coal Export Committee of the American Mining Congress, of which Henry M. Payne, of the Bertha Coal Company, is chairman, met at a luncheon Saturday, May 3, held in the rooms of the Machinery Club, 50 Church Street, New York, James F. Callbreath, secretary American Mining Congress, occupying the chair.

"It may be said from the outset that the purpose of the American Mining Congress, as expressed by its secretary, is not to add another element of confusion to that already existing in regard to the export problem. The purpose of the Congress is to serve all elements in the industry, and to bring about cooperation between them. The wholesalers have discussed or are discussing the problem; the National Coal Association has attacked it without arriving at definite conclusions, and the United States Bureau of Mines has its own suggestions formulated.

"There is a risk of cross purposes, and to avoid any such unfortunate outcome the American Mining Congress, the representative of all interests in the mining industry, is trying to use its coordinating influence. As Mr. Callbreath has well said, the American Mining Congress should serve to allay the present confusion and, should it fail to achieve such a result, it will cease all its attempts to interest itself in the export situation. When it has succeeded in bringing the representatives of the various interests to put their feet under one table its work will end, unless those interests seek its further assistance.

"The principal of the informal talks was made by Allen Walker, of the Guaranty Trust Company. Mr. Walker has taken an active part in promoting export associations of many kinds under the Webb-

Pomerene act. He stated that the foreign nations all had their export associations. Great Britain, at first, tried to do business without industrial cooperation. The salesmen on their arrival in foreign ports declared that they were not troubled so much by the activity of the German, Japanese or Frenchman as by the competition of their own countrymen. They advised a measure of coordination.

"Wedded to their methods and their trade-marks, and confident that their past activities had established for them an enviable reputation, the leaders in British trade resented these suggestions and sent other salesmen, men of larger caliber, but from them they received the same reports. Some of the companies even sent their executive heads to find out the true situation. They finally decided that the best way of handling foreign trade was by an association among all those in the industry. Thus transactions became simplified.

"Did they want something of the Government, they approached the proper board with an authoritative and certain voice. There were no longer as many voices as there were exporting corporations. The associations were successful because they hunted in packs. They were busy seeking business and not in struggling for their share of it. The aggregate was larger, so there was more for all. The principle, according to Mr. Walker, should be 'No national competition in the foreign field.'

"A large number of export associations have been formed already in all lines of business. The discussions all started with the conviction that nothing could be done, that each producer would 'paddle his own canoe.' But ultimately the export bodies were formed and those who at first opposed associations most vigorously became the most enthusiastic of supporters.

"Charles S. Keith, of the Central Coal and Coke Company, was in the beginning not at all favorable to the lumber export association though he is a leading producer of lumber. He ultimately changed his point of view entirely, stating that if he did not sell a stick, a plank or a board of lumber abroad he would nevertheless be an enthusiastic member of the association, for he would realize that it helped him by removing the surplus production from the American market.

"To continue to give the gist of Mr. Walker's address it may be said that much of the difficulty in the formation of export associations arises from the opposition of those who have expended time and money in establishing a reputation. Perhaps the good will thus created is not as important as the established exporter thinks. Still it

is doubtless of some value. What there is of it should be saved. It would be suicidal not to sell at least for some time under trade-marks well known in foreign trade. However, the association's name should accompany the trade-mark of the individual member of the association. The allocation of orders gives no trouble. They may be apportioned according to the volume of previous foreign business, or in some other way.

"Again quoting Mr. Walker:

"There is an advantage in dealing with the Government as a unit, as the American Federation of Labor has shown. Labor has practically but one voice. Capital has had the voices of 793 associations with conflicting viewpoints. No wonder the American Federation of Labor with its clearly enunciated propositions has been heard, while the multiple voices of capital have been an unconvincing discord."

"As an outcome the meeting voted 'That the chairman be authorized and requested to appoint a committee, representing the several coal interests involved, such committee to prepare a report and recommendation for cooperative effort to be submitted to a general conference to be called by the chair.' The committee appointed consisted of Henry M. Payne, chairman, representing the American Mining Congress; Allen Walker, acting as advisor; G. M. Dexter, representing the National Wholesale Coal Association; Thomas Ferrell, representing the National Coal Association, and Van H. Manning, representing the Bureau of Mines.

"The Committee on Coal Export which called the meeting consisted of Dr. Henry M. Payne, of the Bertha Coal Company; Henry G. Brown, of Philadelphia; George F. Lee, of Wilkes-Barre; F. W. Wilshire, of New York, and J. P. Walsh, of Pittsburgh. Those present at the meeting were James F. Callbreath, Dr. H. M. Payne, W. T. Coe, representing Mr. Wilshire and London representative of the Consolidation Coal Company; John M. Lee, of the Lee Coal Company; Henry G. Brown, of the Blair-Park Coal Company; Allen Walker, of the Guaranty Trust Company; George M. Dexter, of the National Wholesale Coal Association; Charles S. Allen, of the New York Wholesale Coal Association; R. Dawson Hall, of Coal Age; W. P. Harriman, of the Irving National Bank; George N. Reed, of the Newark Traffic Club; G. H. Montague, an attorney with a large knowledge of export business; Francis Caughi, of the Guaranty Trust Company; Dr. H. Foster Bain, of the U. S. Bureau of Mines."

MEETING OF GENERAL COMMITTEE

The committee met in New York, May 9, in the Guarantee Trust Company's board room. Messrs. Payne, Farrell, Dexter,

Walker and Bain were present. After general discussion as to the workable features of all proposed plans it was decided to postpone definite program until a committee appointed by the National Coal Association could appoint a sub-committee on cooperation.

The activity of the American Mining Congress was purely the result of the knowledge that, while the first direct benefit from coal export accrues to the exporter directly, the exporting of millions of tons of American coal means the enlarged demand for American product of capital and labor, hence is a national and not a strictly tidewater problem. The ruling of the Shipping Board interfered with the expansion of American coal trade along competitive lines, and pressure was necessary to force recognition of domestic rights to enter the coal trade of the world.

Following these efforts the Shipping Board called a meeting in Washington of all interested in coal export, May 29, which was largely attended by producers, wholesalers and representatives of organizations interested and of the Government.

Mr. Hurley gave assurances of the Shipping Board's great interest in the problems under consideration and of its assistance in their practical solution. Mr. Rossiter announced the creation of a bureau to handle the allocation of ships for coal exportation, and the appointment of H. J. Saint, of Seattle, as manager of the bureau.

Allocation of ships and zoning of markets were ably and generally discussed, and plans announced for cooperative action by all interested in the coal export trade.

The announcement of the working program of the Shipping Board in this matter will be made in a few days.

FOREIGN TRADE IN IRON

AND STEEL IS INCREASING

The foreign trade of the United States in iron and steel is gradually increasing. It is encouraging that although trans-Atlantic shipping space is in such demand for food supplies and Army use, there has been some exportation of iron and steel to European countries. Ocean freight rates are showing a tendency toward general reduction. During the month rates from northern Atlantic ports to Africa were reduced about \$2.50 a ton. A report has been issued that rates from Japan to Seattle have been reduced to \$6.50 a ton on general merchandise.

Exporters in the United States are forming organizations for doing a large foreign business. The British steel manufacturers, probably realizing this, have taken further steps toward arranging a division of trade with the United States along the lines suggested by Judge Gary some years ago.—Bureau of Mines Minerals Investigations.

LEGISLATION CALLING FOR COAL INSPECTION IS TO BE URGED

There will be presented to the 66th Congress a bill calling for the creation of a force to inspect certain coal shipments. A copy of that bill is as follows:

"Fuel Inspection.—The Secretary of the Interior is authorized and directed to establish, through the Bureau of Mines, a fuel inspection system for the purpose of giving accurate public information concerning the quality of fuel shipped and sold in interstate and foreign commerce. Authority is granted the Secretary of the Interior in connection with the establishment of such a fuel inspection system, to provide coal sampling places at such points as he may deem advisable, procuring by lease, purchase, condemnation or donation, the land and equipment necessary therefor, and to utilize such agent or agencies for obtaining representative fuel samples, and make such rules and regulations as he may deem necessary to accomplish this purpose.

"For the establishment of the coal inspection system herein authorized, including personal services in the District of Columbia and elsewhere, equipment and supplies, expenses of traveling and subsistence, purchase, maintenance, and operation of motor-propelled passenger-carrying vehicles for inspectors, and every other expense essential to this work, \$600,000."

In support of that bill the following formal statement is made:

"The representations of coal producers and consumers and the interests of foreign commerce have shown the need of some form of coal inspection that will at once assure to the consumer a grade of coal which he pays for, protect the interests of those preparing clean coal, and without discouraging the mining of poorer grades of coal, will exert an influence toward good coal preparation, especially in time of coal shortage.

"The proposed coal inspection system contemplates as a salient feature public advice as to the quality of coal as shipped. The force depended upon to produce results is a public statement of facts. For this purpose the machinery for accurate sampling of full carload lots is necessary. The Government now possesses facilities for analysis and publication.

"It is proposed that each mining company set its own standard of quality consistent with the particular vein, preparation and market which the business affords, and that the Government shall publish such standard and certify as to whether such standard is being maintained by the mining companies. Such work would not replace inspection by the min-

ing companies. It would not certify as to the quality of each and every shipment, but it would inspect and sample at irregular intervals a sufficient number of cars of coal as shipped to indicate whether the declared standard of the mining company was being maintained.

"Mines entering the system would be privileged to advertise that their product was from a mine whose standard of preparation was certified to by the Government. In case coal shipments were sub-standard the mine would be advised of the fact. If the condition continued, the facts would be given publicity and the mine, to retain a place as a certified mine, would be required to declare a new and different standard and one which its product could meet.

"Mines entering this system would agree to allow shipments to be sampled en route at sampling stations and stand any added expense of transportation and handling incident thereto. All analyses would be published from time to time giving accurate information about American coals. Mines need not come into this system, but there would be manifest advantages in being on a government approved list which would gradually increase the number using the service."

OIL AND GAS ORDERS REVOKED

BY U. S. FUEL ADMINISTRATOR

The United States Fuel Administrator on May 15 ordered that all rules, regulations or orders issued under the authority of the Fuel Administrator governing licensees engaged in the business of importing, manufacturing, distributing and transporting crude oil, fuel oil, gas oil, kerosene, gasoline and natural gas, or regulating the production, sale, distribution or use thereof, and all amendments and modifications of the rules be vacated.

Production Chief Called to France.

James B. Neale, member of the coal firm of Thorne, Neale and Company, sailed on Friday, May 2, for Europe in response to a summons from President Wilson. It is understood that Mr. Neale will enter into a conference bearing on the rehabilitation of the French coal mines which were deliberately wrecked by the Germans, and he will be absent probably six weeks. Mr. Neale, who lives at Buck Run, one of his hard-coal operations in Schuylkill County, was chief of the Production Division of the United States Fuel Administration and on active service in Washington until about the first of this year.

LEGISLATION—NATIONAL AND STATE

The assembling of Congress in extraordinary session, May 19, gives rise to the hope that some very constructive legislation for the mining industry may be obtained. At this writing over 5,000 bills have been introduced. Those bills of particular interest to mine operators are covered quite thoroughly in the following resume, in order that our readers may become familiar with them. Their progress will be carefully followed by the American Mining Congress, and a report of any action taken upon them made through this department of the Journal. All new bills of interest to mining will be found in these columns monthly.

Tariff

H. R. 2029: Introduced by Mr. Timberlake, provides a duty of \$10 per unit of tungsten trioxid imported into the United States, a unit being defined as 1 per cent of tungstic trioxid in a short ton of 2,000 pounds. Ferrotungsten powder, tungstic acid, calcium, tungsten steel salts, and compounds of tungsten, and all other manufactured materials containing tungsten, not specially mentioned in the bill, shall pay a duty of \$1.25 per pound of tungsten therein.

H. R. 1246: Introduced by Mr. McPherson. This bill provides for the levying and collection of a duty of 2 cents per pound upon the metallic contents of all zinc ores imported from any foreign country into the United States.

Annual Assessment Mining Claims

H. J. Res. 57: Introduced by Mr. Hawley, to suspend the requirements of annual assessment work on mining claims during the year 1919. In order that each claimant may take advantage of the provision of the bill, it is necessary that they file in the office where the location notice or certificate is recorded, on or before December 31, 1919, a notice of the desire to hold the claim under this bill. The bill does not apply to oil locations or claims.

Gold

S. 553: Introduced by Mr. Thomas, authorizing the President to appoint commissioners to an international monetary conference. The bill provides that whenever after August 1, 1919, the President shall determine that the United States should be represented at any international conference called by the United States, or any other country, with a view to securing by international agreement a fixity of relative values or exchange between gold and silver as money by means of a common ratio between such metals, with free mintage of both said metals at said ratio, he is authorized to appoint five or more commissioners to such international conference. The bill provides that all reasonable expense connected with the work of the committee, be paid by the United States, and appropriated \$100,000 for that purpose.

Leasing Bill

H. R. 496: Introduced by Mr. Ferris, authorizing exploration for and disposition of coal, phosphate, sodium, oil, oil shale or gas on the public domain.

Sale of Coal Lands

Section two of this bill authorizes the entry of any coal lands in the United States, exclusive of Alaska, locations to cover not exceeding 2,560 acres upon the payment to the receiver of not less than \$10 per acre for such lands where the same is 15 miles from any completed railroad, and not less than \$20 per acre for such lands as shall be within 15 miles of such railroad. The Secretary of the Interior shall offer such coal lands and award same through advertisement and competitive bidding. The bill requires that development work of the aggregate value of not less than \$8 per acre upon the coal lands so entered shall be made annually for two years after such award, when patent shall be issued therefor. The bill provides further that no person, association or corporation shall own coal lands entered after the passage of this act in excess of the above-mentioned area at any one time, nor be interested, directly or indirectly in any other coal lands or coal taken therefrom, and no member of such association or corporation shall own any other coal lands or be interested directly or indirectly in any other coal lands or coal taken therefrom, or in any other association or corporation owning or controlling any coal lands. If such ownership or interest hereby forbidden may be acquired by descent, will, judgment or decree, it may be held for two years after its acquisition and not longer. As punishment for such offense, a fine of \$10,000, imprisonment in the penitentiary for two years or both, is provided.

Leasing of Coal Lands

Section 2 of this bill authorizes the Secretary of Interior upon the petition of any qualified applicant, to divide any of the coal lands classified or unclassified, owned by the United States outside of Alaska, into tracts of forty acres each or multiples thereof, which will permit the

most economical mining of the coal in such tracts, but in no case exceeding the 2,560 acres provided for. The bill prohibits railroads from acquiring through lease or permit under this act, any coal lands or deposits in excess of such area or quantity as may be required and used solely for its own use. Any railroad may acquire one lease for each 200 miles of its line of actual operation. The bill also provides that upon a satisfactory showing by the lessee, that all of the workable deposits of coal within a tract covered by his lease will be exhausted within three years thereafter, the Secretary of the Interior may lease to such lessee an additional tract of land or coal deposits which, including the coal area remaining in the existing lease, shall not exceed the authorized 2,560 acres. Lessees are allowed to consolidate their leases or holdings through the surrender of original leases, providing that the inclusion does not exceed the prescribed number of acres. The bill provides that a royalty of 2 cents per ton of 2,000 pounds, due and payable at the end of each month be paid to the United States together with an annual rental of 25 cents per acre for the first year, and 50 cents for the second, third, fourth and fifth years, and \$1 per acre for each year thereafter during the continuance of the lease. The leases are for indeterminate periods upon condition of diligent development and upon further condition that at the end of each twenty-year period succeeding the date of the lease, a readjustment of the terms and conditions may be made by the Secretary of the Interior. If the Secretary of the Interior believes it to be to the public interest in lieu of the provisions contained in the bill requiring continuous operation of the mine, he may provide in the lease for the payment of an annual advance royalty upon a minimum number of tons of coal which in no case shall aggregate less than the amount of rentals herein provided. The Secretary of the Interior is authorized to issue limited leases or permits to individuals, or associations to prospect for mines, and take for their use but not for sale, coal from the public lands without payment of royalty for the coal mined or lands occupied. This privilege is not extended to any corporation. Municipal corporations are allowed to lease 160 acres providing they will mine the coal under proper conditions and dispose of same without profit.

Phosphates

This section provides for leases of 2,560 acres, and the payment of a royalty to the Government of not less than 2 per cent of the gross value of the phosphate at the mine, and an annual rental of 25 cents per acre for the first year, and 50 cents for the second, third, fourth and fifth years, and \$1

per acre for each year thereafter during the life of the lease. Leases are for indeterminate periods. Forty acres is allowed for the proper prospecting, development, extraction, treatment and removal of the mineral.

Oil and Gas

This section authorizes the Secretary of the Interior to grant to any qualified applicant, a prospecting permit, which shall give the exclusive right, for a period not exceeding two years, to prospect for oil or gas, upon not to exceed 640 acres of land belonging to the United States, and located within 10 miles of any producing oil or gas well, and upon not to exceed 2,560 acres of land wherein such deposits are situated more than 10 miles from a producing property, and are not within any known geological structure of a producing field. It is necessary that the permittee shall begin drilling operations within six months from date of permit, and shall within a year, drill one or more wells to a depth of not less than 500 feet each, unless oil is discovered sooner, and shall drill to an aggregate depth of not less than 2,000 feet unless valuable deposits are discovered sooner. The secretary has the power to extend the time for drilling upon proper showing as to cause for failure to drill. The permittee is compelled to erect a 4-foot monument at some conspicuous place upon his location, and post a notice in writing stating that within thirty days application for permit will be made.

This section also provides for prospecting in Alaska, and limits the number of permits to any individual to five, and for periods of not exceeding four years. Actual drilling must begin within two years from date of permit. A well of 500 feet depth must be drilled within three years, and a well of 2,000 feet within four years, unless, of course, valuable deposits are discovered at lesser depths.

Upon establishing to the satisfaction of the Secretary of Interior that valuable deposits of oil or gas have been discovered, permittee shall be entitled to a patent for one-fourth of the land embraced in the permit, such land to be selected by the permittee. Permittee is given preference right to lease the remaining and unpatented lands within the limits of his permit, at a royalty determined by competitive bidding at a rate of not less than $\frac{1}{8}$ per cent otherwise to be upon the same terms and conditions as provided for other general leases. Until permittee shall apply for patent, he shall pay the United States 20 per cent of the gross value of all oil and gas secured by him.

No well shall be drilled within 200 feet of any of the outer boundaries of the lands located.

The bill provides that all unappropriated deposits of oil or gas situated within the geological structure of a producing property, and the unentered lands containing same, unless embraced in prospecting permit, may be leased by the Secretary of the Interior through competitive bidding, under general regulations in areas not exceeding 1,280 acres, and in tracts which shall not exceed in length two and one-half times their width, such leases conditioned upon the payment of a royalty of not less than one-eighth in amount of the value of production, which royalty upon demand of the Secretary of the Interior shall be paid in oil or gas, and the payment in advance of a rental of not less than \$1 per acre per year thereafter during the life of the lease. Leases are for a period of twenty years, with preferential right in the lessee to renew same for successive periods of ten years.

Upon relinquishment to the United States, filed in General Land Office within six months after approval of the act, of all right, title and interest claimed prior to July 3, 1910, upon payment of an amount equal to the value at time of production of one-eighth of all the oil or gas already produced, the claimant shall be entitled to a lease for twenty years, at a royalty of not less than one-eighth of the proceeds of oil and gas produced. Any one claimant can secure but one-half the area within the structure, if such structure exceeds 640 acres. If claims are situated within naval petroleum reserves, the producing wells thereon only shall be leased, together with an area of land sufficient for the operation thereof, upon same terms and royalties as provided in leasing of claims. No well shall be drilled in the land subject to this provision, within 660 feet of any such leased well, without consent of lessee. The President may lease the remainder of any such claim with preferential right in claimant. Section nineteen of the bill provides that any person, who, at the time of any withdrawal order, or on January 1, 1918, was a bona fide occupant or claimant of oil or gas lands, not withdrawn from entry, and who had previously performed all acts under then existing laws necessary to valid locations, except to make discovery, and upon which discovery had not been made prior to the passage of this act, and who has performed work for benefit of such locations, an amount equal in the aggregate of \$250 for each location, if application therefor shall be made within three months from passage of the bill, shall be entitled to prospecting permits thereon, and where discovery has been made, he shall be entitled to a lease thereon under such terms as the Secretary of the Interior may prescribe, provided the lands are not reserved for the Navy.

Oil Shale

The provisions of this section of the bill are identical with H. R. 187, introduced by Mr. Taylor, and discussed in these columns.

Alaska Oil Proviso

Any bona fide occupant or claimant of oil- or gas-bearing lands in the Territory of Alaska, who, prior to withdrawal had complied with the requirements of the mining laws, but had made no discovery, and who prior to withdrawal had made substantial improvements on each location, and expended not less than \$250 for each location, prior to passage of this act, shall be entitled, upon surrender to the United States within one year from date of act, or within six months after denial or withdrawal of application for patent to a prospecting permit, or permits, lease or leases, under this act covering such lands, not exceeding five permits or leases in number and not exceeding an aggregate of 1,280 acres in each. These leases, whether as a result of prospecting permits or otherwise, shall be upon such rental and royalties as shall be fixed by the Secretary of the Interior, and specified in the lease, and be subject to readjustment at the end of each twenty-year period. For the purpose of encouraging oil production in Alaska, the Secretary of the Interior may waive the payment of rental or royalty for the first five years of the lease.

Sodium

Secretary of the Interior is authorized to grant any qualified applicant a prospecting permit, which shall give exclusive right to prospect for chlorides, sulphates, carbonates, borates, silicates, nitrates of sodium dissolved in and soluble in water and accumulated by concentration, in lands belonging to the United States for a period of not exceeding two years, areas not to exceed 2,560 acres in reasonably compact form. Lands in San Bernardino County, Cal., are excluded for provisions of this act. Upon proper proof of valuable deposits being discovered, permittee shall be entitled to a patent to one-fourth of the land embraced in the prospecting limit. No lease shall exceed 2,560 acres, and lessee shall pay a royalty and an advance rental of 50 cents per acre for the first calendar year, and \$1 per acre per year thereafter during the continuance of the lease, rental to be credited on royalty for that year. Lessee is granted the right to use not exceeding twenty acres of non-mineral lands for camp sites, refining works, etc.

General

No person, association, or corporation, except as provided in the bill, shall have more than one coal, phosphate, or sodium

lease, during the life of such lease. No person, association, or corporation shall have more than three oil or gas leases in any one state, and not more than one lease within the geological structure of a producing oil field. No corporation shall hold any interest as a stockholder of another corporation in more than such number of leases, and no person or corporation shall hold any interest as a member of an association, or as a stockholder of a corporation holding a lease under provisions of this act, which, together with the area embraced in any direct holding under this act, exceeds in the aggregate an amount equivalent to the maximum number of acres allowed to any one lessee.

Rights of way through public lands, including forest reserves are granted for pipeline purposes for transportation of oil or gas, to the extent of the ground occupied by the pipe line and 25 feet on each side of same, upon the express condition that such pipe lines shall be constructed, operated, and maintained as common carriers.

All moneys received from sales, royalties, and rentals under this act, excepting those from Alaska, shall be paid into and become a part of the reclamation fund, but if any amount is left after use by the reclamation service, 50 per cent of the amounts derived from the royalties and rentals shall be paid by the Secretary of the Treasury, after the expiration of each fiscal year, to the state within the boundaries of which the leased lands are located, to be used for construction and maintenance of public roads and public schools.

Oil Shale

H. R. 187: Introduced by Mr. Taylor, of Colorado, to authorize the leasing of deposits of oil shale. This bill grants the Secretary of the Interior authority to lease to any person or corporation any deposit of oil shale belonging to the United States and the surface of so much of the public lands containing such deposits as may be required for the extraction and reduction of the minerals. It provides that no lease shall exceed 5,120 acres of land, to be surveyed by the United States at the expense of the applicant. Leases may be for indeterminate periods, upon such conditions as may be imposed by the Secretary of the Interior, including covenants relative to methods of mining, prevention of waste, and productive development. The lessee is obliged to pay for the privilege of mining a royalty which shall be specified in the lease and also an annual rental payable at the beginning of each year at the rate of 50 cents per acre, said rental to be credited against the royalties accruing for that year, such royalties to be subject to readjustment at the end of each twenty-year period. The secretary has the power for the

purpose of encouraging the production of petroleum products from shales to waive the payment of any royalty and rental during the first five years of any lease. Any person having a valid location to such minerals under existing laws shall upon the relinquishment of such location, be entitled to a lease for such an area of the land relinquished, as shall not exceed the maximum area of the land authorized by the bill. No person can acquire more than one lease and if a claimant has been guilty of fraud in the location of any oil-shale-bearing lands, he shall not be entitled to the benefits in this bill.

H. R. 2083: Introduced by Mr. Raker, to authorize exploration for and disposition of coal, phosphates, sodium, oil, oil shale, or gas on the public domain.

This bill is identical with the bill reviewed in these columns, introduced by Mr. Ferris.

H. R. 183: Introduced by Mr. Taylor, to authorize exploration for and disposition of coal, phosphate, sodium, oil, oil shale, or gas upon the public domain.

This bill is identical with the bill introduced by Mr. Ferris, and also by Mr. Raker, and also by Mr. Raker.

Minerals on Indian Reservations

H. R. 1692: Introduced by Mr. Hayden, to authorize the mining of metalliferous minerals on Indian reservations. The bill empowers the Secretary of the Interior to lease the unallotted lands of the Indian reservations in the states of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Washington and Wyoming, heretofore withdrawn from entry under the mining laws for the purpose of developing deposits of gold, silver, copper and other valuable minerals, which leases shall be irrevocable, except as provided in the bill, but which may be declared void upon breach of any of its terms. It requires that the locator apply to the Secretary of the Interior under the terms and conditions of the act within one year after the date of the location of any mining claim for a lease, and unless this application is received within a limited time the locator forfeits right to the claim. A duplicate copy of the location must be filed with the superintendent in charge of the reservation within sixty days. The leases are to be for a period of twenty years with preferential right in the lessee to renew the same for successive periods of ten years upon reasonable terms prescribed by the Secretary of the Interior. The bill provides for the granting by the Secretary of the Interior a lease to a tract of unallotted nonmineral land, not exceeding forty acres for camp

sites, milling, smelting and refining works, for which the lessee must pay \$1 per acre. The Secretary of the Interior reserves the right to lease, sell or otherwise dispose of the surface of the lands embraced within the lease. The lessee shall pay for the privilege of mining and for the benefit of the Indians, a royalty of not less than 5 per cent of the net value of the output of the minerals at the mine, due and payable at the end of each month. Also an annual rental of not less than 25 cents per acre for the first calendar year, 50 cents per acre for the second, third, fourth and fifth years, and \$1 per acre during the continuance of the lease. The lessee is required to spend not less than \$100 in development work for each mining claim located and the law also requires that the lessee shall pay all damage occasioned by reason of his mining operations or improvements thereon. Secretary of the Interior has the right of examining the books of the lessee and to require them to submit statements, including information as to the cost of mining, etc. All royalties received from the mining of these minerals go to the Indians. The law provides also that the Indians themselves when they are proved to be competent to manage their own affairs, may lease unallotted lands.

Labor

H. R. 544: Introduced by Mr. Nolan for the establishment of a National Employment Bureau in the Department of Labor. This bill provides for a commissioner of employment and it shall be the duty of such bureau under the direction of the Secretary of Labor to provide facilities whereby employers may obtain the services of persons seeking employment, and persons seeking employment may obtain such employment. The bureau has the power to establish and maintain in such place as it may deem desirable, free labor exchanges. It consolidates the Division of Information, the Bureau of Immigration of the Department of Labor, with the National Employment Bureau, and said bureau takes over all work which has been and will be done by the Bureau of Immigration, also its appropriations.

H. R. 563: Introduced by Mr. Johnson, of Washington, to provide for the protection of the citizens of the United States by the temporary suspension of immigration; for the deportation of additional classes of aliens; for the registration of aliens; to further regulate the immigration of aliens to, and the residence of aliens in the United States; to promote the assimilation of aliens. This bill prohibits the immigration of all aliens who practice, teach or advocate the extortion of money or property, or the avenging of grievances, through threats

of bodily injury or injury to property, or any members who are affiliated with any organization that so practices. The bill provides rules and regulations for the admitting of aliens who can properly establish their right to naturalization. In the case of provisional admission, bond or cash bail shall be exacted constituting appropriate guaranties, including assurance that the alien shall not become a public charge and that he will be produced at any time upon the demand of the Commissioner General of Immigration. In lieu of a cash bond or cash bail, the deposit in the United States Postal Savings Bank at regular intervals of a reasonable portion of the wages earned by such alien until in this manner there has been accumulated to the alien's credit a sufficient sum to constitute similar guaranties and assurances.

H. R. 1347: Introduced by Mr. Raker, to expel and exclude from the United States certain undesirable aliens. This bill expels from the United States all aliens who since August 1, 1914, have been or may hereafter be convicted of any offense committed during the period of the present war, all judgment on such conviction having become final. This bill also provides that aliens so excluded shall not be readmitted unless through special consent of the Secretary of Labor.

H. R. 1106: Introduced by Mr. Raker, to prohibit the coming of Asiatic laborers into the United States. The bill provides that all Asiatic laborers shall be excluded from admission into the United States, it being understood that "Asiatic laborer" means a native of any country or district of the continent of Asia, or islands adjacent thereto.

H. R. 61: Introduced by Mr. Lufkin, to prohibit immigration for a period of four years, and provides that after the passage of the act and until the expiration of four years the immigration of aliens into the United States be prohibited and during such time it shall not be legal for any alien to come from any foreign port, or having so come to remain within the United States. The bill allows any alien heretofore legally admitted or any citizen of the United States to bring in his father or grandfather over 55 years of age, his wife, his mother, his son or daughter not over 18 years of age, and nephews or nieces not over 14 years of age, who are full orphans. The bill also provides that upon the arrival at port of any vessel from any foreign port, it shall be the duty of the Immigration Officer to send competent assistants to the vessel, and, it shall be the duty of the owner of the vessel to notify the Immigration Officer in charge, where his vessel is or will be anchored. There shall be a fine imposed should the vessel land

without the necessary authority from the General Immigration Officer.

H. R. 2251: Introduced by Mr. Mason to amend the revenue law providing for all persons employed in any mine or quarry in the United States under the age of sixteen years the employer shall pay to the United States \$2. per day for each day for each person so employed. For all persons employed in mill, cannery, workshop, factory, or manufacturing establishment located in the United States, under the age of 14 years, the employer shall pay to the United States \$2. per day each day for each person so employed.

Soldiers and Public Lands

H. R. 187: Introduced by Mr. Mondell, to provide employment and rural homes for those who have served with the military and naval forces through the reclamation of lands to be known as the "National Soldier Settlement Act." The bill appropriates \$500,000,000 for the purpose of carrying out the provisions of the act, the power over which is vested in the Secretary of the Interior, who may acquire the land by gift, purchase, deed, or otherwise, and may withdraw, utilize and dispose of by contract public lands suitable for such purposes. The Secretary is given the power to perform such work as is necessary for the permanent reclamation and development of the lands and so far as possible must use the services of soldiers for such purpose. The lands are to be subdivided into farms suitable for the support of a family. Dedication may be made for schools, churches, community centers, and other public purposes. The sale price shall be fixed with a view to repaying the total cost of each project, and shall represent as nearly as practicable its relative and comparative selling value. Applicants shall make as a first payment 5 per cent of the sale price, the balance to be paid in amortizing payments extending over a period to be fixed by the Secretary, not to exceed forty years. Sums advanced for improvements (which sum shall not exceed \$1,200 in any single case) shall be repaid in amortizing payments extending over a period of not to exceed twenty years. Amortizing payments shall bear interest at the rate of 4 per cent, payable annually. The Secretary is also authorized to make short-time loans from the fund, not to exceed \$800 at any one time, to a soldier settler for the purchase of necessary live stock and equipment. The repayment of these loans to be made during a period of not to exceed five years, with interest at 4 per cent.

H. R. 192: Introduced by Mr. Ferris, to provide for cooperation between the United States and state governments in the rural settlement of soldiers, sailors and marines,

and to promote the reclamation of lands. This bill appropriates \$500,000,000, and its provisions are practically the same as the bill introduced by Mr. Mondell, except that the amortizing plan shall not exceed forty-five years and that deferred payments bear the rate of 4½ per cent interest. This bill also provides that the War Department shall turn over for the reclamation of the lands any war material not required by that department, such as motor trucks, automobiles, dredges, ditching machinery, explosives, horses, wagons, as the Secretary of the Interior may be able to utilize.

H. R. 179: Introduced by Mr. Byrnes. This bill appropriates \$100,000,000 and is substantially the same as the bill introduced by Mr. Ferris.

Revenue

H. R. 1036: Introduced by Mr. Mondell to repeal the section of the War Revenue Act relating to and providing for a zone system of second-class mail matter. This bill provides for the payment in the case of the portion of publications devoted to matter other than advertisements, on and after July 1, 1918, and until July 1, 1919, 1½ cents per pound or fraction thereof, and after July 1, 1919, 1½ cents per pound or fraction thereof. If the advertising pages in any journal do not exceed 5 per cent of the total space, the rate of postage shall be the same as if the whole publication were devoted to reading matter. On and after July 1, 1918, and until July 1, 1919, that portion of any publication devoted to advertisements shall pay: For the first and second zones, 1¼ cents; third zone, 1½ cents; fourth zone, 2 cents; fifth zone, 2¼ cents; sixth zone, 2½ cents; seventh zone, 3 cents; eighth zone, 3¼; and after July 1, 1919, and until July 1, 1920, for the first and second zones, 1½ cents; for the third zone, 2 cents; for the fourth zone, 3 cents; for the fifth zone, 3½ cents; for the sixth zone, 4 cents; for the seventh zone, 5 cents; for the eighth zone, 5½ cents; and after July 1, 1920, and until July 1, 1921, for the first and second zones, 1¾ cents; for the third zone, 2½ cents; for the fourth zone, 4 cents; for the fifth zone, 4¼ cents; for the sixth zone, 5½ cents; for the seventh zone, 7 cents; for the eighth zone, 7¼ cents; and on and after July 1, 1921, for the first and second zones, 2 cents; for the third zone, 3 cents; for the fourth zone, 5 cents; for the fifth zone, 6 cents; for the sixth zone, 7 cents; for the seventh zone, 9 cents, and for the eighth zone, 10 cents. For papers of religious, educational, scientific, philanthropic, agricultural, labor or fraternal organizations or associations not organized for profit, the second-class postage rate shall apply, irrespective of the zone in which it is to be delivered.

Department of Education

S. 898: Introduced by Mr. Owen, to create a Department of Education. The bill provides for the creation at the seat of the Government an executive department to be known as the Department of Education, which shall be under the supervision of a Secretary of Education, who shall be appointed by the President, and who shall receive a salary of \$12,000 per year, and whose tenure of office shall be the same as other executives of departments. This bill simply provides for an enlargement of the Bureau of Education of the Department of the Interior. The duties of such a department shall be to collect, classify and disseminate information and advice on all phases of education, and through cooperation with state, county and municipal education officers to promote, foster and develop advancement in the public school system throughout the United States. The act provides the necessary funds for carrying out the provisions of the bill.

Anti-Trust Laws

H. R. 1186: Introduced by Mr. Steele and conferring additional powers upon the Federal Trade Commission. The bill provides that upon application for a license to transact interstate commerce, under the rules of practice and procedure as prescribed by the Federal Trade Commission, the applicants setting forth the nature and character of the interstate commerce to be transacted, the location of the principal office, place of business, and if a corporation, a copy of its certificate or articles of incorporation, the names and addresses of all its officers and stockholders and, if unincorporated, a copy of its articles or contract of association, and the names and addresses of the managers and members, the Commission shall proceed to make diligent inquiry into the facts set forth in the application and if satisfied that such interstate commerce does not constitute an unlawful monopoly, or an unreasonable restraint of trade or commerce, or unfair competition, or a detriment to the public, the commission shall grant the license so applied for, which license shall authorize the licensee to transact the interstate commerce set forth in the application. Whenever the Commission shall have reason to believe that any such licensee is conducting such interstate commerce as is an unlawful monopoly, etc., it shall issue and serve upon such person a complaint stating its charges in that respect and containing a notice of a hearing upon a day and at a place therein fixed, at least thirty days after the service of such complaint. The person or persons so complained of shall have the right to appear at the place and time so fixed and show cause why an order should not be entered by the Commission requiring them to

desist from the practices charged in such complaint. The testimony of the proceedings shall be taken in writing and filed in the office of the Federal Trade Commission. If, after such hearing the Commission shall be of the opinion that the charges preferred have been sustained, it shall issue an order requiring them to desist from such practice. It gives the Commission the power to modify and set aside, in whole or in part, any report or order made or issued by it as mentioned, and it may make recommendations for the readjustment of business in order that they may operate in accordance with the law. If any person shall fail to comply with the order or recommendations of the Commission, it may revoke such license and refer its findings and recommendations to the Attorney General of the United States for such action as he may deem proper. The Commission shall issue to all persons who have complied with the provisions of this act a license certificate, which certificate shall be registered in the office of the Commission in a record book to be kept for that purpose and which shall be open for public inspection.

Blue Sky Laws

H. R. 188: Introduced by Mr. Taylor, providing for furnishing information with respect to shares of stock offered to the public. The bill provides that the act shall be known as the "Federal Stock Publicity Act." It provides that every corporation organized for the purpose or with the power of engaging in interstate commerce, which proposes or intends to offer shares of its stock to the public for purchase, and every person, firm, association or corporation which proposes to offer stock for sale through the use of the mails, or through any book, magazine, etc., shall be required to file a statement with the Secretary of the Treasury at Washington, D. C., certified copies of the statement also to be filed with the postmaster of the capital city in each state in which an offer of shares is to be made, and at any other places which the Secretary of the Treasury shall direct.

The statement shall contain the names and addresses of the board of directors, president, treasurer, secretary and auditor, together with the number of shares owned by each. The name of the state in which the corporation is organized, and reference to the laws of such state. The purpose for which it is organized, and general nature of business it is engaged in or proposes to be engaged in. The capitalization of the corporation, authorized capital stock, number and classes of shares, description of voting rights, rights to dividends, profits or capital of each class with respect to each other class, amount of founded debt with description of date, maturity and character

of such debt, and security. Information as to commissions paid for sale of stock, together with names and addresses of vendors. Names of public accountants who have audited the books of corporation. The statement shall specify names and addresses of those who offer the stock to the public, and in what state such offer is made.

Any matter published by corporations in regard to sale of stock shall mention this act, and state where copies of statement are filed, saying that the statement is open to public inspection, and copy will be sent by mail, postage prepaid. Copies of all such published matter shall be filed at the same place statements are filed.

Any persons defrauded by false statements shall have returned to them all consideration given, and shall have the right to obtain damages for losses sustained from any one or more of the signers of the statement.

The act does not apply to sales at public auction, or on stock exchanges approved by the Secretary of the Treasury nor to offers of shares owned by bankers, brokers and dealers to their customers in accordance with licenses granted by the Secretary of the Treasury, who has the power to waive or suspend the provisions of this act. He shall prescribe the forms upon which the statements shall be filed, and to require further information as he shall deem proper in the public interest. He may delegate the power accorded him under this act to any other department, board, bureau or commission of the Government.

The Secretary of the Treasury is authorized to establish a bureau in the Treasury Department, and to employ such attorneys, experts, assistants and clerks as are necessary.

The bill provides that the unexpended balance of all appropriations for the capital issues committee available for the fiscal year ending June 30, 1919, or so much as is necessary, be available to carry out the purpose of this act.

A fine of \$5,000, one year imprisonment or both is provided for violation of the act. The act is to take effect within sixty days after its passage.

H. R. 1297 Introduced by Mr. McClintic, to amend the Federal Trade Commission bill. The bill provides that upon passage of the act it shall be unlawful for any person, partnership or corporation engaged in commerce, to offer for sale any stocks, bonds or other securities in the United States without first submitting to the commission a notice of such intention to so offer for sale such stocks, together with a report of the business engaged in, showing in detail the amount of capital invested or capital stock issued, the amount paid

therefor, the manner and time of payment of same, the dividends paid, the surplus fund, if any, and the number of stockholders; the floating debts and the interest paid thereon; the cost and value of any property, franchise, or other holdings; the number of employees and the salaries paid each; the earnings and receipts, the operating and other expenses, and the balances of profit and loss for the year preceding the filing of said notice. If after proper examination of the report the commission shall deem the business in a state of solvency which offers a reasonably safe investment for the public, it may upon the payment of a reasonable sum, issue to such person, partnership or corporation a certificate that they have complied with the provisions of this act. Anyone failing to comply with this section shall forfeit in addition to the penalty prescribed, the sum of \$100 for each and every day's default.

UNCERTAINTY WORKS HAVOC WITH THE POTASH INDUSTRY

The situation with respect to domestic potash salts has been discussed widely in the current technical press, and from many viewpoints. There has been little change in conditions, and not much can be expected in spite of the fact that only small amounts of potash salts have been imported, and that there is a declining market, as long as the uncertainty over the foreign potash situation continues. It is expected that potash legislation will be considered as soon as Congress convenes, but just what form it will take is still a question.

Tariff legislation, or a system of licensing imports only on agreement to buy a certain fixed proportion of domestic salts are the two main methods which have been discussed of affording relief to the domestic producers.

One of the most important events during the month of April was the importation of about 100 tons of Alsatian salts which came into New York. Though this was not enough to affect the domestic market in any way, such imports have a tendency to cause worry and to restrict buying. It is estimated that stocks on hand are approximately 15,000 to 20,000 tons of pure potash.

The demand for potash salts has been so unsatisfactory that all the Nebraska plants have closed and certain of the large operators in California and Utah are also reported to have suspended operations. An organization has been perfected among the potash producers, who are planning some action to protect their industry.—Bureau of Mines Minerals Investigations.

Sulphuric Acid Production

As a result of an inquiry made of the acid manufacturers at the meeting in New York on April 2, it was evident that the rate of production of acid in the East during the first four months of 1919 was only about 330,000 tons per month, or about 60 per cent of the rated capacity of all commercial plants in the East. However, distribution of this production is not the same in the South as in the North. In the South, that is, south of Virginia and Kentucky, most of the fertilizer plants are running at or near capacity, and the average rate of production of the plants is probably 90 per cent of the rated capacity.

In the North, however, the production is only about 50 per cent of the rated capacity. We have, therefore, a rate of production in the South of about 120,000 tons per month, and an average rate of production in the North of about 210,000 per month. These figures apply only to those plants east of the Mississippi River. The production west of the Mississippi River is estimated to be about 30,000 tons per month. Adding these estimates of present production, we have a total for the United States of 360,000 tons per month, or 4,320,000 tons (basis of 50° B.) per year, which is approximately 320,000 tons more than the production of 1914, and this will undoubtedly increase as general business conditions throughout the country improve.

Data compiled during the third quarter of 1918 showed that the general commercial business in the north during that period required 260,000 tons of acid. This is nearly 25 per cent more than the rate of production during the first quarter of 1919. If stocks remained the same this would indicate that the general commercial business had been reduced by 25 per cent. However, as stocks have been increasing and acid production at the same time has been decreasing and is probably even less than 50 per cent of the capacity of the plants at this time, the indications are that the general chemical business has been curtailed by more than 25 per cent.

The amount of acid owned or controlled by the Government, about 100,000 tons, is, therefore, somewhat greater than one-half of a month's supply for the demand in the north under present business conditions.—Bureau of Mines Minerals Investigations.

Ask Rate Reduction

The iron ore producers of Minnesota have endeavored to obtain a reduction in railroad rates from the mines to the docks, but they have so far failed. High rates work an especial hardship on the Cuyuna Range mines.

A reduction of 20 cents a ton was an-

nounced for lake transportation, but at the same time an increase in handling charges at the docks was suggested which would partly offset that advantage.—Bureau of Mines Minerals Investigations.

Work at Salt Lake City

Under cooperative agreement between the University of Utah and the Salt Lake Station of the Bureau of Mines, investigations of the volatility of metals in low-grade complex ores are in progress. This station has been made the headquarters for the ore-dressing work of the bureau and also devotes attention to cyanidation and other hydrometallurgical tests and research.

PERSONALS

Fred Farrar, formerly attorney general of Colorado, is the new secretary and general counsel of the Colorado Fuel and Iron Company, succeeding Jasper A. Writer, secretary-treasurer, deceased. S. G. Pierson, formerly vice-president and general purchasing agent, is vice-president and treasurer. J. B. Marks is purchasing agent.

John E. Hodge, of the E. J. Longyear Company, Minneapolis, Minn., together with Mrs. Hodge, were Washington visitors during the month.

George E. Holmes announces the removal of his law office from 30 Broad Street, New York City, to 15 William Street, where he will continue in the general practice of law with special reference to federal tax matters. Mr. Holmes is a member of the American Mining Congress Committee on Mine Taxation.

The Ohio Brass Company, Mansfield, Ohio, announces the removal of their Chicago office to 1217 Fisher Building.

Nelson Franklin, of Denver, Colo., after spending several weeks in the east, has returned to Denver.

World's Largest Lead Smelter

During the year the lead smelter at Port Pirie, South Australia, of the Broken Hills Associated Smelters Proprietary, Ltd., was enlarged and its capacity is now 165,000 short tons annually, making it the largest plant of its kind in the world. Most of the lead concentrates produced by the Broken Hill mines of New South Wales are smelted in this plant.—Bureau of Mines Minerals Investigations.

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A DANGEROUS SCHEME

Price is the outward indication of value. If the value to the proposed purchaser is greater than the price, he buys, otherwise not. The value to him, not the cost, is the controlling reason which culminates in any transaction. If there are many customers and but one pair of shoes available and the necessity is great, then the value to the proposed purchaser will lead to the payment of a high price. If there are thousands of pairs of shoes available and but few customers, the value of the particular pair of shoes to the customer is reduced in proportion to the lack of demand and the surplus of supply. Again, this value to the purchaser is measured by the value of the money which he exchanges for a given article. The scarcity of this money, while a factor in the transaction, leads back to the value of the service or the quantity of the supplies which the individual surrenders for a given amount.

This apparent fluctuation in the value of money is purely relative. Money being more stable than any other factor in business transactions must be assumed to be stable. Prof. Irving Fisher, of Yale University, in an article recently appearing in the *New York Commercial*, quotes a part of the report of the Committee of the American Economic Association, the conclusion of which report is as follows:

The committee regards the stabilizing of the value of monetary units under international agreement as desirable and economically feasible. The details of the plan, the question of the proper time of its introduction, and the question whether international agreement is indispensable, should receive the immediate attention of statesmen and economists.

Incidentally it may be stated that the recommendation of the committee has by the common acceptance of the world, if not by international agreement, been in effect for many centuries. Gold has with practical universality been recognized by all peoples as a stable unit of value.

Professor Fisher says:

Now that the war is over there will surely arise great problems of currency. Among the chief of these will be the problem of more stable monetary units. If a scientific solution of this problem is not found, an unscientific solution is apt to be tried. Already schemes for currency changes are advanced which would be fraught with danger. . . . What is needed is to stabilize or standardize the dollar, just as we have already standardized the yardstick.

To accomplish this, Professor Fisher proposes that we—

banish gold entirely from our thoughts and think of a dollar as simply a number of grains of gold bullion in the Treasury vault, the number changing from time to time, but always definite and specific at any time. . . . But it will be asked: What rule or criterion is to guide the Government in making changes in the dollar's weight? A definite and simple criterion for the required adjustment is at hand—the "index number" of prices.

This plan for stabilizing the value of the dollar might be likened to a standardization of the yard-stick by making it of elastic rubber so that it might be made to adjust itself to the length of any article which it sought to measure. Plentiful crops or increased efficiency in production by which the supply of those articles, the average price of which is to be the index number, would increase the value of the dollar just as the yard-stick of elastic rubber might be made to adjust itself to the length of any article.

The law of supply and demand would attach itself to both sides of all transactions under the Fisher plan in such a way as to destroy itself. The world has produced many inventors of perpetual motion by which it was proposed to set aside the law of gravity. Professor Fisher's plan seems designed to set aside the law of supply and demand, and to that extent is a most unique proposal. A law which can be set aside is not a law. The law of gravity and the law of supply and demand will surely come back. To make useless mankind's universal yard-stick of value—gold—it will be necessary to change, to revolutionize, the viewpoint of the world, civilized and semi-civilized alike. It might be possible to convince an educated community that all exchange can be based on credit, but it will require many generations to convince the world that paper money is always and everywhere of equal value. The world might have agreed upon platinum as the best measure of value, but it did not. The world did agree upon gold as the most stable measure of value and will continue to so consider it without respect to the academic discussions of any or all of the world's theorists.

MINING CONGRESS JOURNAL thoroughly agrees with Professor Fisher when he says that "already schemes for currency changes are advanced which would be fraught with danger," although it may disagree as to which of these proposed schemes is most dangerous.

THE IMPORTANCE OF EXECUTIVE MANAGEMENT

It is unfortunate that the organized labor movement relies to some extent upon the essential doctrines of Bolshevism. The Bolshevik says the means of production belong to the people and private ownership is not entitled to respect. Organized labor says: "The property is yours, but the use of it must meet our approval. You may operate it with organized labor only. If you attempt its operation with non-union labor in defiance of our demands, we will not be responsible for what the irresponsible of our membership may do

looking to the enforcement of our demands." Organized labor, while not openly asserting that a union employe is entitled to his job, reaches the same result by ordering a strike whenever a union employe is discharged from service, practically always asserting, as an excuse, that affiliation with the union was the cause of the discharge from service.

Union members are never incompetent or insubordinate. Denial of the right to discharge for insubordination means loss of the benefits of executive management without which no operation can be efficient. Efficiency must be the key to our future progress as a nation. Even the farmer must be more efficient, and the agencies through which his product is distributed must be still more efficient if labor's wage is to be adequate. Any principle which prevents executive direction of operations leads to inefficiency, to high production costs, and to a scarcity of the necessities and luxuries of life.

The great body of consumers, including all wage-earners, must be burdened by any plan which destroys or impedes the efficient operation of productive forces. Interference with the right of executive control will prevent efficiency.

The principle of fair play is a predominant trait of American character. It consists largely in allowing to others every right or privilege which we ask or claim for ourselves. As American citizens we insist on the right to select and purchase our supplies in the most satisfactory market. Any interference with the principles of fair play is bound to react. The right of liberty and the right of property have so long been fundamental principles that every disturbance or denial is sure to disturb essential relations.

Every approach toward Bolshevism and the denial of these rights will develop inherent penalties.

CONGRESSIONAL INVESTIGATION NEEDED

One of the strange results of the work of the War Minerals Relief Commission was what developed in the effort to secure confidential and helpful information from

the records of the War Industries Board, the Shipping Board and other war organizations. The statements of hundreds of men who became involved financially through the activities of the various temporary war organizations have shown conclusively that communications, publications, circular letters and, in many cases, telegrams were sent out, at times specifically addressed to certain parties, in some instances sent broadcast in an effort to arouse general activity in production and at other times definitely instructing owners of properties to produce manganese, chrome, pyrites and tungsten for war purposes. In some instances veiled threats were made by government agencies that properties might be taken over and operated unless owners proceeded to get out the needed war supply.

And yet the efforts of the War Minerals Relief Commission to find substantiating records in order to complete their unbiased efforts to measure justice to the claimants met with failure. No records were to be found and no evidence that the war boards had ever participated in such activities or campaigns. One well-known official of the War Industries Board, whose activities were evidenced through the last few months of the war by both personal letters and telegrams and whose offices had sent out hundreds of form letters, announced that he had taken no part in the campaign to induce greater production of war materials, neither had his office, to his knowledge.

The Relief Commission and the claimants will probably always wonder what happened to the ponderously over-loaded and over-officious war board referred to, but the claimants will probably have longer memories than the officials who so easily shed their responsibilities after the signing of the armistice.

Blunders were to be expected—were impossible to avoid—in the scramble to whip the nation into shape for war, but that these temporary war organizations should, after overriding and ignoring the regularly organized administrative government agencies and attempting to control every function of national life, either fail to keep records of their ac-

tivities or perhaps permit their destruction, is quite unthinkable.

The information assembled by the war boards at government expense should be available for public use and any failure in this behalf is a proper subject for congressional investigation

COMEDY AND TRAGEDY

Comedy and tragedy vie with each other in the mass of claims filed against the War Minerals Relief Commission. Curious and interesting are some of the strange claims which have floated in. The Commissioners will have to puzzle long over some of the stories presented in affidavits before finding a real connection between the claim and the law. Tears, honest old-fashioned tears, have been shed by the Commissioners over some of the really heart-breaking letters. Laughs, many of them, have broken the monotony of three months of grinding work and indignation over some of the frank attempts to get a little government money without visible excuse, legal, technical or otherwise, and have put spice into many an otherwise dull day.

A large number of claimants were automatically ruled out by virtue of the fact that they based their claims upon the manufacture of ferros, the Commission holding that the law does not cover the manufactured product. One claimant wanted to be repaid for horses, trucks and buildings purchased for the establishment of a transport service. Several claimants based their complaints upon money or credit advanced to persons who were trying to follow the Government's request for war material and several have attempted to collect private accounts from claimants, through filing accounts with the Relief Commission.

As the law does not definitely state that the war production must have been "in the United States" several Cuban claims have been filed, the entire records and all correspondence being in Spanish. One man who claimed \$24,000 losses explained that he "had kept no books" and that the Commission would have to accept his memory for the correctness of the claim.

Perhaps the most unique claim was made by the City of San Jose, California, which had sacrificed its local scenery to the god of war and wanted to be paid for it. Ten thousand dollars was the value fixed on the lost scenery, and the story is about as follows:

San Jose City Park contained a great boulder all shiny and beautiful from some sort of metallic content. Everyone was proud of the big mass of metal, and the megaphone man in the tourist wagon had it on his program as a "sight."

One day a patriotic citizen read of the need of more manganese for the big guns. He recalled that someone had said the big rock was manganese. He told the "City Fathers" that San Jose had a duty to perform to the soldiers in France. They agreed. An engineer estimated that the rock was worth \$10,000 at the "war price" for manganese. The money value was weighed against the scenery value and won. There was a great moment in San Jose when the official blast was set off that put San Jose on the map as a mining town. It was a public event when the crumbled scenery was loaded for market and started for the East, and then, before San Jose's contribution to the war could get into the market, came the armistice. All the King's Horses cannot pull the "scenery" into position again, but it will take \$10,000 to assuage the feelings of the little California city for its failure.

A DIRECTOR OF PUBLIC CONSTRUCTION

Among others who want to help care for the demobilized soldiers and sailors, Congressman Kelly of Pennsylvania makes the most remarkable proposal yet placed before Congress. The bill is outlined in the Legislative Department of this issue. One hundred million dollars are placed in the hands of a Director of Public Construction whose powers are so broad and ultimate influence so great that existing portfolios dwindle into insignificance except in the matter of salary. Mr. Kelly limits his proposed new controller to \$5,000 per year. He provides for the employment of soldiers

and war workers in building and maintaining public highways and "post roads," in establishing and operating motor transport and postal routes under the Post Office Department, in organizing a system of marketing food products, etc. The Director of Public Construction is empowered to act as a real estate agent for discarded public lands, to dabble in the work of the Department of Agriculture by establishing ideal communistic rural settlements and experiment farms, and to break into the State Agricultural College field with demonstration farms for "agricultural training." The communistic settlement plan authorizes operative, buying, selling, storage, insurance, credit and loan boards and other "suitable means for the settlers' economic and social welfare." He is authorized to establish experimental logging and milling plants and to sell the products. He is authorized to go to Alaska and operate a few "community plan" coal mines. He is to assist in the control of floods, etc., etc. And, while his controlling board is composed of the Secretaries of War, Agriculture, Interior and Labor and the Postmaster General, all wages and standards of living conditions for labor employed are to be fixed by the Secretary of Labor.

And for \$5,000 of American money, Mr. Kelly plans to employ this road-market real estate colonization agricultural forestry mining economic expert for twelve months' efficient service each calendar year.

DEPARTMENT OF PUBLIC WORKS

The most far-reaching and significant bill yet aimed at the "reconstruction" of National Administration has been introduced in the Senate by Senator Jones of Washington and in the House by Congressman Reavis of Nebraska.

This bill is the outcome of months of consideration and planning by the Engineering Council of America, representing the various engineering societies of the United States and organized to participate in national legislative activities affecting engineering.

The Bill eliminates the present De-

partment of the Interior and establishes, in its stead, a Department of Public Works. It provides that the secretary of this new department shall be a member of the President's cabinet, but that after the tenure of office of the incumbent expires "all subsequent occupants shall, by training and experience, be qualified to administer the affairs of the department and to evaluate the technical principles and operations involved in the work thereof."

The bill provides that the Geological Survey and Bureau of Mines shall remain in the Department of Public Works, with their personnel and property, but transfers—

The Patent Office to the Department of Commerce.

The Bureau of Pensions to the Department of the Treasury.

The Bureau of Education to the Department of Labor.

The Bureau of Indian Affairs and the Indian Commissioners to the Department of Labor, except that all engineering and construction work of these two bureaus must be done by the Department of Works.

St. Elizabeths Hospital and Freedmans Hospital to the Department of the Treasury.

The Columbia Institution for the Deaf and Howard University to the Bureau of Education.

To complete proposed control of engineering and construction, the following bureaus are transferred to the Department of Public Works:

Supervising Architect, from the Treasury.

The Construction Division of the United States Army, River and Harbor Improvements, Mississippi River Commission and the California Debris Commission, from the War Department—with provision for assignment of army officers in the work.

The Coast and Geodetic Survey and the Bureau of Standards from the Department of Commerce.

The Bureau of Public Roads from the Department of Agriculture.

The Forestry Service from the Department of Agriculture.

Four assistant secretaries are authorized under civil service and these must be technical men.

For the bill, there will be aligned many thousands of engineers and technical men. Against it will be aligned the Administration forces and the Army and the Navy, for it is openly said by friends of the bill that it is aimed directly at the War Department and is a sort of punitive measure designed to inject a more technical and business method into the construction work of the Government, to replace military red tape.

Against it, also, will be arraigned those who believe that the Department of Labor already has sufficient to handle in looking after employment and labor problems.

There will be arraigned against it the hundreds of thousands who believe that there should be a department, rather than a Bureau of Education under any department. They will fight for the Educational Bill already introduced.

There will be a strong objection from those who question the ability of technically trained engineers to handle the entire construction-program of the country—and technicians are to be in control of all bureaus if the bill becomes a law.

The long-cherished plan of the American Mining Congress for a Department of Mines and Mining, to include the Bureau of Mines and Geological Survey, is still a live issue. If this is the proper time for a program of reorganization, the mining interests of the country will undoubtedly insist on being considered.

BOLSHEVITIS

Bolshevitis is a new disease. A returned officer of the Medical Corps of the army, until recently stationed in Hungary, says that the Hungarian bolshevitis was cured by the administration of plenty of good food. In studying the activities of the "Reds" in Budapest he found the symptoms similar to the actions of hungry animals. He used the methods he would have used with hungry animals and cured the patients.

In the United States it was a parlor disease for a long time and might have been cured in its incipient state by radi-

cal treatment, such as the enforced use of common-sense methods of thinking. In Russia the lead cure has been successfully used by the allied physicians, but the epidemic is hard to handle in its virulent form. The germs of the Russian epidemic were brought over in sugar-coated pills and distribution begun by "Ambassador" Martens, the repudiated representative of the "Soviet Government" of Russia, who, when turned away from Washington, went to New York, established a mahogany furnished office with plenty of stenographic appurtenances and began to emulate his illustrious predecessor, Herr Von Bernstorff, in the Hunning business.

The people of New York, as represented by the Lusk Investigation Committee, are cleaning house. The nest of bolshevitis generators was discovered, seized, cleansed of several tons of Lenine and Trotsky literature in several languages, records and correspondence seized showing how far the parlor bolshevitis had developed and the real epidemic established, and several disconcerting disclosures and much good reading became the property of the authorities. The process of cleaning-up reached the headquarters of that famous fraternity of wheat-burners, the I-Won't-Works, and a ton more of the Russian romance was seized. And the committee even interfered with a well known "School of Social Science" which, Senator Lusk's committee alleges, has been disseminating the doctrine of discontent for many years.

The investigating committee of the United States Senate filled more than 2,000 pages with a report of the development of the disease in the United States and warned the nation that the plan of the propagandists was to seize all property, public and private, and to do away with the Government. An appropriation of two million dollars was made by the Senate to be expended in fighting the "Reds."

MINING CONGRESS JOURNAL for June quoted a soldier who claimed that the slimy disease was to be found in the Army and was to be feared more than foreign invasion. The New York disclosures and the Senate report indicate that the soldier was correct.

"Ambassador" Martens is quite indig-

nant at being disturbed in his work of inoculating the American people with the Bolshevitis virus, but it is probable that his work will have to be carried on by other enthusiasts as he will be "segregated" from decent Americans for some time. The disease is here, however, and it doesn't seem to confine its ravages to the empty stomach; therefore the army officer's suggested cure won't apply in America.

WAR DEPARTMENT HAS LARGE SUPPLY OF CUPRO-NICKEL FOR SALE

The War Department, through the Director of Sales, is making inquiries designed to develop a market, other than that afforded by the United States Mint, for approximately seventy-five carloads of cupro-nickel, the material from which the 5-cent piece included in the nation's monetary system is coined.

This material was acquired by the War Department to be used in the making of the metal jackets that encase the .30-caliber bullets, and other small-arms ammunition. The alloy obtained for military purposes has a slightly higher copper content than that used for coinage. It consists of 85 per cent copper and 15 per cent nickel. Cupro-nickel is stronger than brass, and, notwithstanding the presence of copper in its composition, takes and maintains through long usage a natural nickel finish.

Experiments have demonstrated that this alloy has an advantage over nickel-plated brass in that it holds its nickel finish longer. Therefore, the Office of the Director of Sales is calling it to the attention of the manufacturers of automobile accessories, cutlery, builders hardware, jewelry, pipe fittings, and other nickel-plated commodities, and inviting suggestions from them as to new uses to which the metal may be put.

The present surplus of cupro-nickel held by the War Department consists of the following quantities:

68 tons cupro-nickel bars (for rolling or for casting).

598 tons cupro-nickel sheets (from which the jackets are extruded).

805 tons cupro-nickel sheets in coils.

623 tons partly finished bullet jackets.

356 tons cupro-nickel scrap resulting from operations.

10 tons finished jackets.

The sheets and coils are adaptable for use by stamping mills. The bars, partly finished jackets and finished jackets are suitable for casting.

Shipments of Coal

The War Trade Board announced on June 27 that shipments of coal may now be made from all ports on the Atlantic seaboard, and that the Collectors of Customs have been notified to disregard the provision contained in export licenses already issued to the effect that shipment must be made from Philadelphia or ports south thereof.

EMERGENCY TARIFF HEARINGS

At the beginning of this session of Congress, tariff bills, covering practically all of the more important war minerals, were introduced by the various representatives from the states most interested. These bills have all been reviewed in detail in the columns of this journal devoted to legislation. Almost the first of these was Senator Henderson's Potash License Bill, which failed with the closing of the last session of Congress. A similar bill was introduced in the House by Mr. Fordney, Chairman of the Ways and Means Committee, and was the first of these bills to have a hearing before the committee. The Ways and Means Committee for this session of Congress is made up of the following members:

Republicans.—Joseph W. Fordney, Chairman, Michigan; J. Hampton Moore, Pennsylvania; William R. Green, Iowa; Nicholas Longworth, Ohio; Willis C. Hawley, Oregon; Allen T. Treadway, Massachusetts; Ira C. Copley, Illinois; Luther W. Mott, New York; George M. Young, North Dakota; James A. Frear, Wisconsin; John Q. Tilson, Connecticut; Isaac Bacharach, New Jersey; Lindley H. Hadley, Washington; Charles B. Timberlake, Colorado; George M. Bowers, West Virginia.

Democrats.—Claude Kitchin, North Carolina; Henry T. Rainey, Illinois; Cordell Hull, Tennessee; John N. Garner, Texas; James W. Collier, Mississippi; Clement C. Dickinson, Missouri; William A. Oldfield, Arkansas; Charles R. Crisp, Georgia; John F. Carew, New York; Witmell P. Martin, Louisiana.

Republicans are, of course, in favor of tariff, but the Democratic members of the committee express themselves as favoring adequate protection for the war minerals as a measure of national defense, and to save infant and necessary industries from ruin.

The main interest of the first two days of the potash hearing, June 10 and 11, centered about former German control and the relative merits of a licensing or general tariff plan, and the possibility of building up a permanent potash industry in this country in a short time under a system of protection. The following witnesses appeared:

Frederick W. Brown, Executive Secretary, United States Potash Producers' Association.

H. H. Dow, President of the Dow Chemical Co., Midland, Mich.

Lewis Emery, Jr., representing the American Alkali & Chemical Co., Bradford, Pa.

Arthur C. Harragin, Secretary, American Trona Corporation of California.

Col. Myron M. Parker, Attorney for the United States Potash Producers' Association.

George D. Parkinson, representing the Liberty Potash Co., of Salt Lake City, Utah.

W. E. Richardson, representing the Nebraska Potash Producers.

Dr. George Otis Smith, Director, United States Geological Survey.

A. G. White, Bureau of Mines.

On June 17, Dr. H. A. Huston, Secretary of the German Kali Works, a subsidiary of The Potash Syndicate of Germany, appeared before the Ways and Means Committee with a carefully prepared statement and concluded in a spirited argument with Colonel Parker, who pointed out the real status of the German potash industry in the minds of the American people.

Tungsten was the first metalliferous industry to be discussed before the Ways and Means Committee, under a bill sponsored by Congressman Timberlake, a member of the committee, who opened the discussion on behalf of the tungsten producers by reading a number of telegrams from the tungsten producers of the Boulder District of Colorado and California. J. H. Holmes, Jr., of Boulder, appeared for the tungsten producers, George Otis Smith and Frank R. Hess for the Geological Survey, Roy McKenna of the Vanadium Alloys Company appeared for the manufacturers of alloy steels, and George H. Bailey for the American Mining Congress. G. C. Riddell gave an interesting report of the findings of the Tariff Commission regarding the tungsten industry. Congressman John Q. Tilson from Connecticut, a member of the committee, spoke for the users of tungsten steel tools. The interesting part of this whole hearing was the fact that the entire industry, from the tungsten miner to the user of the finished product of tungsten tool steel, all spoke through representatives to the Ways and Means Committee and all were in favor of a tariff on tungsten and tungsten products. Mr. Tilson made the statement that the machine shops of the district that he represented must have this tungsten tool steel and that he was speaking for them when he said that they wanted the means of protection that would guarantee them the most uniform, steady supply. The impression this hearing made on the committee was distinctly favorable.

Magnesite hearings commenced on June 16 and continued for two days. Congressman Hadley, who had presented the bill, opened with a short discussion of the growth of the industry. Senator Poindexter of Washington also spoke in behalf of the bill. Mr. G. C. Riddell appeared for the Tariff Commission and gave the results of their examinations of the magnesite industry. Congressman Kahn of California appeared for a few moments in behalf of the bill. George Otis Smith appeared for the Geological Survey.

Considerable diversion was caused by the testimony of Mr. E. M. Allen, vice-president of The American Refractories Company, who appeared in opposition to the magnesite tariff, basing his contention upon the fact that his company had invested \$2,000,000 in Austrian magnesite plants before the war. Mr. Allen averred that there had been "considerable guessing" in connection with other statements made before the committee and charged that the American interests had been pooled and

that there was now a trust in control. He alleged that the tariff, if granted, would be "in the interest of about three California men" and when faced with a statement by Chairman Fordney that he understood that there were 8,000 stockholders in the American magnesite industry, Mr. Allen replied that this was the result of a "great stock jobbing scheme."

It had been charged that Austrian labor was paid at the rate of twenty cents per day, and Mr. Allen said that his company had paid \$1.10 for ten hours' work, but that Austrian labor cost had increased since the war closed.

"We used to sell this stuff at \$15.75 before the war," said Mr. Allen, "but it will cost us \$30 a ton to lay it down in New York or Philadelphia. Our company is 100 per cent American," he said; "American money owns the mines and \$2,000,000 is invested."

"Leaving out of consideration the proposition of the American Refractories Company, isn't it the better policy to manufacture brick of American magnesite, produced by American mines by American labor than from Austrian mines?" asked Congressman Hadley.

"That is an economic question that your economists can answer, but I will say this, that since the war is over we have got to realize that we cannot live within ourselves; we have got to become an international country," was the answer of Mr. Allen.

He also thought that the \$25 per ton tariff asked for would be injurious to the Canadian magnesite industry which was "started to help out the situation."

"Whom did they go into business to help—Canada or the United States?" asked the chairman.

"I suppose, Canada primarily," replied the witness.

Mr. Allen had several heated tilts with various quizzical members of the committee who attempted to make him elucidate upon several quite general statements regarding "trusts," "independent" manufacturers of magnesite bricks, and other expressions which caused either amusement or belligerency on the part of the committeemen. He held that the new duty, as asked, should not be fixed and that the present ad valorem duty of 10 per cent should be reduced to 5 per cent.

Messrs. B. L. Thane and Roy N. Bishop appeared for the Northwest Magnesite Company and Howard T. Wierum for the American Mineral Production Company. A great deal of discussion arose as to the relative merits of American and Austrian magnesite. The evidence seemed to show that, from the most recent developments, American magnesite is fully as good as Austrian and, with proper protection for a fair period of time, this industry can be self-sustaining on a permanent basis. Judge Webster, Representative from Washington, closed the hearing for the magnesite industry with the most telling and effective speech which has been given before the Ways and Means Committee this session. He was preceded by Mr. Ryan, counsel for the American Refractories Company.

On June 18, the Zinc Tariff bill was called up and one hour was allotted to the Joplin Committee for presentation of their arguments. Paul A. Ewart, a mining attorney of Joplin, addressed the committee for fifty-five minutes, discussing the zinc situation in a general way. Otto Ruhl, well-known mining engineer, representing the Chambers of Commerce of Joplin and Webb City, was given five minutes and afterwards filed data in support of his statements. Congressman E. B. Howard of Oklahoma appealed for the passage of the bill and related Oklahoma's interest in the zinc industry.

Two days were given to a discussion of chemical glass and the committee adjourned until after July 4.

Potash Situation Summarized

In opening the potash hearing before the Committee on Ways and Means of the House of Representatives, Geo. Otis Smith, the director of the U. S. Geological Survey, said:

"I think it only necessary for me to summarize the situation which the United States faced at the beginning of the world war. We had depended almost to the extent of 100 per cent upon the great potash resources of Germany, the largest in the world. We were without domestic production. However, for some years previous to that, if you will remember, there had been before the great war somewhat of a commercial conflict on the subject of potash, and Congress in 1911 authorized the beginning of a search for domestic sources in this country. So the question was already before the governmental departments eight years ago and before the American people, though in a small way.

"The principal potash resources that have been discovered, partly under this governmental stimulation and largely through the work of the citizens of the United States, are possibly four: The brines of the small lakes in western Nebraska, the alunite deposits in Utah, the kelp deposits along the Pacific coast, the brines of Searles Lake in California, and attention was being given to all these.

"The net result of this activity was that last year, 1918, there was produced in the United States something like 50,000 tons, in terms of K_2O , of potash salts. This would represent approximately 20 per cent of the pre-war requirements of the United States. The capacity as estimated by those who studied the question—the capacity of the different plants operating or ready to operate at the time of the signing of the armistice—was about 100,000 tons, which would be, you see, about 40 per cent of the pre-war consumptive needs of the United States.

"In point of active production the Nebraska Lakes led last year with a production of nearly 29,000 tons a year, in terms of K_2O , and Searles Lake with a production of nearly 11,000 tons.

"Then we had as by-product sources—and that is a subject you will find discussed in the previous hearings—potash recovered from cement mills and blast furnaces, molasses distillery waste, beet sugar waste, and even such waste

liquors as come from wool washing; the total of this by-product potash being something like 6,000 tons—and then there was another 2,600 tons from alunite, and 4,800 tons from kelp; a total, as I said, of something like 50,000 tons, or to be more exact, 54,562 tons, in terms K_2O , that represents in addition to the domestic potash industry."

TUNGSTEN PRODUCTION

ANALYZED BY F. L. HESS

During the hearing on tungsten before the Ways and Means Committee, Representative Garner asked F. L. Hess the following question:

"I would like to ask you to tell the committee something about the ultimate extent of tungsten already discovered in this and foreign countries, and the probable cost of production in this country and in foreign countries, as you understand it."

To this question Mr. Hess replied:

"In this country we have three principal fields: the Atolia field of southern California, which is practically confined to one mine, the mine of the Atolia Mining Co. There are a number of smaller veins and some placer deposits, which are located in the one little village of Atolia. This Atolia Mining Co. mine produces a mineral known as sheelite, and that is the richest tungsten mine ever discovered in the world. That was discovered about 1905; or in that year, at any rate, the Atolia Mining Co. took it over. I think it was found the year before. They had, in the first place, in the Hope Pass vein, a vein which was 3 feet of solid sheelite. Sheelite contains about 80 per cent WO_3 , or 80 units to the ton. Just at the time the war came on, or after the war got going ahead and tungsten got up to the highest price, in one of the veins, Union No. 1, they had a vein that carried 9 feet of rich ore, and they sold that ore at the very highest prices; so that that is one of the very prosperous companies. That mine produces somewhere in the neighborhood of one-third of the total production in the United States.

"The second field, in Nevada, has been a comparatively recent addition, and is a totally different type of tungsten ore. There granite has been thrown up in the limestone, and with the ores that came up with the granite a little tungsten was brought, and this has deposited in the limestone and changed the character of the limestone altogether, and it looks nothing at all like limestone. And there is this little thin deposit of tungsten in the limestone. It may be a foot broad and from 3 feet to 1,000 feet long, or half a mile long, as it is in one case, and a few feet broad, and varying all the way. There is no steadiness to the amount of the deposit. They had gotten into full production, that is, they had gotten into much larger production, about the time the war closed. They produced something like 800 tons of ore last year, or a little less than that.

"The third field is the Boulder field, in Boulder County, Colo. There they have a series of small veins which widen out into little rooms or

pockets. And that field and Atolia have been teetering back and forth, as to which was the larger, for the past few years—as to which made the larger production. Recently the Boulder field has been making the larger production. But many of those mines are cleaned up, and many of the deposits are completely depleted. The Primos Chemical Co., which was one of the largest mining companies there until last year, has dismantled its mines and actually gone out of business.

"You wanted to know something about the deposits in other countries?"

"The largest producer outside of the United States is China. Tungsten ore was found in China in 1917; that is, the first production that amounted to anything. They produced about 1,500 tons of ore. In 1918 they shipped something like 10,500 tons. The ore is similar to the piece we had here yesterday. It is found as placer stuff, where the veins have worn down so the material in the veins has been washed away, leaving this wolframite in the dirt and stream beds. I have talked with a number of people who have been in those fields and imported from them, and they tell me as fast as a deposit was found the people would flock there from all over the country, farmers and all, and begin mining this deposit, and in some places they were very rich. I remember a story of half a dozen coolies who found a deposit on ——— island, across from Hongkong, and they took out \$30,000 worth of ore in a few weeks. What there is left of those deposits, nobody knows; that is, nobody of any responsibility that I know of knows. There have been very few white men I know of who know anything about tungsten mining in China, and we have no reports that are reliable of how much is left; but I am quite sure there is going to be a lot of ore come out of there yet, because they have not gotten down to mining the veins.

"In Burma they are mining both veins and placer deposits. As you know, Burma is under the British Government, and their costs have been very low. They have had a lot of rich deposits. The Hermeringy mine has published a cost of less than 9 shillings per unit. That would bring it down, as I remember, counting the exchange and all, to something like \$1.50 a unit. The Mergui mine is in south Burma, and the Hermeringy mine is in northern Burma, 90 miles from a railroad, and they can lay down tungsten ores in London at \$7 a unit, at a profit. I have that information from a consulting mining engineer here and I am sure it is correct.

"Now, you can get all sorts of prices between those, in all those countries.

"Bolivia is perhaps the third largest producer. The mines there are not quite so confined to the tin mines as some think, but there are many tungsten veins which are mined solely for the tungsten. And these have been taken up by men of all nationalities, and especially by the Germans and English. The Germans have been in there for a long while, but the English make a special effort to get hold of all such mines, of course, because they expect to make that the basis of foreign trade, and they own some of

the very best mines there which do produce both tungsten and tin, and they also have, as by-products, copper and bismuth. Their production will still grow, but it is not altogether cheap mining, by any means.

"Portugal is the next largest producer, the largest producing country in either Europe or Africa. The Portuguese mines can probably produce from 2,000 to 3,000 tons, if properly worked, per year. When I speak of tons here I mean a ton of ore which carries 60 per cent WO_3 , the standard tungsten ore."

COST OF PRODUCING TUNGSTEN IN COLORADO PLACED AT \$17

During the tungsten hearing J. H. Holmes, Jr., of Boulder, Colo., secretary of the Tungsten Products Co., engaged in the following colloquy with Representative Garner:

"MR. HOLMES. Under normal conditions with the wage existing as in the past we could produce a fair amount of ore in our district—that is, sufficient average amount—at anywhere from \$16 to \$17 per unit.

"MR. GARNER. You said that before the war your average cost of production was \$11 to \$12 per unit. If the wage scale now is the same as it was prior to the war, why does it cost you \$500 or \$600 a ton more to produce it?

"MR. HOLMES. The reason is, Congressman Garner, that, when the war came on, what little ore we had developed—what actual ore was developed and blocked out—was gutted out of the properties. Very little systematic development for the opening up of new ore bodies was maintained. The pressure for production during the war was so great that ore, as soon as disclosed, was taken out of the mines. Now, in a mine you have to do a considerable amount of dead work—that is, work in barren ground which does not produce ore—in order to open up new ore bodies, and the deeper you get into the ground the more costly becomes your mining. The situation, then, which faces us today is that our mines are practically exhausted of quickly accessible ore, and we shall have to develop and open up new ore bodies, and the cost of that work can only be estimated. If we take the experience during the war as our basis for figures, I should say that an estimate, an average fair estimate, for the cost of producing ore in our deeper mining operations of our particular district from now on cannot be less than \$17 or \$18 per unit.

"MR. GARNER. What was the tariff on tungsten in 1911, 1912, and 1913?

"THE CHAIRMAN. Twenty-five per cent if valued at less than \$200 a ton and 20 per cent if valued at more than \$200 a ton was the duty under the Payne tariff law.

"MR. GARNER. Well, now, under that law you increased your production in this country.

"MR. HOLMES. Our production was increased very slightly under that law, Mr. Garner."

This led Geo. Otis Smith to say:

"When we are speaking of the variation in costs between American mines and foreign mines, in addition to making the point already

referred to by Mr. Holmes that there is a variation of costs even in our own country—and of course we know there is a variation not simply in mines but even in farm products—there is also a distinction, I believe, that ought to be made between labor costs and wages. The foreign labor has a low wage, but it seems to me it has a low productivity, and it is not enough to simply compare wages in Burma and Colorado; we must also have some idea of the productivity of those two classes of labor. I was looking at some figures that have been offered by Mr. Hess as to Burma, and as I compared the annual output of tungsten ore with the number of laborers employed during the year I found that they only produced one-third to one-half of a ton per year, and I believe that the corresponding figure for output per man—and I will emphasize the "man" in the case of Colorado, because 10 per cent of that kind of labor in Burma were women and children—but the output per man in the United States would probably be from 3 to 5 tons."

BAILEY'S TESTIMONY

George H. Bailey, of the American Mining Congress, said in part:

"I only want to give some facts and considerations, if I can, that will be worth your while in relation to this matter. I am not so pessimistic as Mr. Hess. You are aware that the department which Mr. Hess is in is not the department that discovers the mines. The prospector is the one who discovers the mines, and there have been many times when the department might have made the statements he made this morning in regard to copper and some other metals, and they would have been wholly within the facts and records and the knowledge they had at the time; but the facts are that when the market went up and tungsten became in demand and there was a necessity for it, the price induced the prospector to find it, and he found it. When a condition exists that causes something to be found there is always somebody who will find it.

"There are many low-grade deposits of tungsten in this country. The Bishop field in California is said to have almost unlimited quantities at \$16. It is found in 13 States and in Alaska. The combing that could be done in 18 months or 2 years cannot be taken into consideration in a final judgment as to the amount of tungsten in this country. The other day one of the largest operators in the Boulder field said in the office of the Mining Congress in the Munsey Building that if the metal was protected they would immediately place plants in fields that they had discovered in Nevada and increase the product from that field. As to the Boulder field, I want to refer to the conditions which Mr. Garner has been asking questions about in regard to prewar conditions and the prewar price. These American mines producing tungsten cannot be put back to the prewar condition to bring upon the market the prewar prices, or to supply them at the prices for which they were supplying them at that time. As Mr. Hess says, there was a time when Boulder

was supplying \$1.50 tungsten. You have been told how the mine is now and how they have to follow the veins, and yet they have not found the limit of those small veins in Boulder. A man making such an investigation as Mr. Hess makes goes down in the mine and sees what is in sight, jots it down, and makes his report. They do not look beyond that; it is the fellow who has the nerve, the mining engineer, who gets money enough to back his judgment, that goes and makes further discoveries."

Roy C. McKenna, of Pittsburgh, pointed out that:

"The manufacture of ferrotungsten prior to 1914 in the United States was practically nothing. It is a fact that Germany was importing America tungsten ore, and, at the same time, exporting to America the refined product. It was only war coming along that enabled the metallurgists of America to find out improvements and processes for the manufacturing of ferrotungsten, so that today I believe we can compete with any nation in the world.

"This bill of Congressman Timberlake's is not asking for additional protection on ferrotungsten; it is asking only for protection to offset the protection being asked for tungsten ore.

"The point that makes it absolutely necessary that the tariff be per unit and not ad valorem is the fact that the American ores produced in this country generally come from nonmineral lands. They are pure ores, the highest grade of ores. The ores we get from Burma and China, especially China, being surface ores, are better; but as soon as they dig deep they have 5 to 6 per cent tin and other impurities. There is a big penalty against the ores containing those impurities, because it is difficult for the manufacturer to eliminate the tin and copper and bismuth; and the trouble with any tariff on ad valorem would be that those lowest grades of impure ores would be imported on the Chinese value, that would not be over \$3 to \$4 a ton on the low-grade ores, and they would compete against the high-grade American ores in the end.

"The tungsten imports of ore into the United States prior to 1914 was in the form of ferrotungsten and tungsten powder. The tungsten mines of South America were owned practically by German and some by Great Britain; they were practically dominated by Germany. Germany was the trading center on tungsten ore to the whole world. The tungsten ore was shipped from South America to Germany, refined into ferrotungsten and tungsten powder and then exported to Great Britain and to the United States. The tungsten that was produced in the English colonies was exported to Germany, reduced to ferrotungsten and shipped to Sheffield for the manufacture of high-speed steel. Germany made practically no high-speed steel; they were a small user of high-speed steel, but they did monopolize the refining of tungsten ore. America was exporting tungsten ore to Germany and importing ferrotungsten at the same time.

"In the market fluctuations of tungsten ores in the last three years, there have been two points where the level price has maintained itself.

One was at \$17 and the other was \$26. Between that, the variations were rapid; but it would settle down at \$17, which represented the price at which the tungsten operators would sell under the most adverse circumstances; \$26, based on market conditions, represented the point where the production would be increased and the law of supply and demand would cause the market to drop again.

"I want you to understand there is a difference in tungsten mining between two veins that run within 50 yards of each other. The one vein may have tungsten that you can get out at one-half the price per unit it would cost in the other vein. The tungsten vein—we had a specimen here of farberite ore, a Colorado ore, here yesterday. That showed the vein not over six inches wide. There was about an inch of mineralized substance in that piece. It represented to my mind the average tungsten vein that is being mined in Colorado, as nearly as any specimen I ever saw. To dig that out it is necessary for two men to work in that tunnel. It is necessary for them to have a car and to load and unload there. It has to be at least seven feet high, so a man can work standing up, and it has to be wide enough so that two men can pass each other and work together. Now they have to remove it sometimes 200, sometimes 8, and sometimes almost from 1,000 feet deep. They have to remove all that body of dirt there to get that little vein of tungsten ore of that representative sample that was shown here."

HINES MAKES CHANGES

IN DEMURRAGE RULES

Walker D. Hines, Director General of Railroads, on June 21 signed supplement number two to General Order Number seven referring to demurrage rules, regulations and charges, effective July 20, 1919. The charges at present are \$3 per day for each of the first four days, after expiration of free time, \$6 per day for each of the next three days, and \$10 per day for each succeeding day.

They will be reduced to \$2 per day for each of the first four days after the expiration of the free time, and \$5 per day for each day thereafter. The supplement also provides that the average agreement which at present applies only to cars held for unloading will also be applied to cars held for loading, but the loading and unloading agreement will be separate.

Representatives of the shippers and of the American Railway Association recommended reductions. Mr. Hines pointed out that demurrage charges are not imposed for the purpose of securing revenue but to assist in the punctual unloading and loading of equipment, and also that in view of the diminished purchasing power of the dollar and the increasing demand for equipment it was doubtful whether the prompt unloading and loading of equipment could be secured by means of these reduced charges. He referred to the heavy movement of traffic expected within the next few months and announced that, if the results were not successful, he would feel compelled to increase the demurrage charges.

SHIPPING BOARD ISSUES NEW
EUROPEAN COAL TARIFF

The United States Shipping Board and the

Emergency Fleet Corporation announce the following rates of freight from North Atlantic Ports and Charleston, S. C.:

To	Coal, per ton of 2,240 lbs.	Guaranteed daily discharge, tons	Coke, per ton of 2,240 lbs.	Guaranteed daily discharge, tons
Bordeaux/Havre/St. Nazaire.....	\$22.50	700	\$33.75	600
Cherbourg.....	22.50	700	33.75	600
Rouen.....	23.00	1,000	34.50	600
Antwerp/Rotterdam/Terneuzen.....	22.50	1,000	33.75	600
Göthenburg.....	26.50	800	39.75	600
Landskrona/Malmö.....	27.00	800	40.50	600
Oxelösund/Stockholm.....	28.00	800	42.00	600
Helsingfors/Sundsvall.....	30.00	800	45.00	600
Bergen/Christiana/Copenhagen.....	27.00	1,000	40.50	600
Korsör/Ronne.....	27.00	1,000	40.50	600
Trondhjem.....	28.00	1,000	42.00	600
Lisbon.....	22.50	1,000	33.75	600
Cádiz.....	23.50	1,000	35.25	600
Bilbao/Cartagena/Barcelona.....	26.00	1,000	39.00	600
Cette/Marseilles/Naples.....	26.00	1,000	39.00	600
Civitavecchia.....	26.00	1,000	39.00	600
Nice/Genoa/Leghorn/Spezia/Savona.....	26.50	1,000	39.75	600
Piræus.....	28.50	1,000	42.75	600
Trieste/Fiume/Venice.....	31.00	800	46.50	600
Salonica.....	31.00	1,000	46.50	600
Bari.....	30.00	1,000	45.00	600
Constantinople/Constanza/Smyrna.....	31.00	1,000	45.00	600
Algiers/Oran.....	26.00	800	39.00	600
Tunis.....	26.50	1,000	39.75	600
Sfax.....	27.50	1,000	41.25	600
Alexandria/Port Said.....	31.00	1,000	46.50	600

Conditions.—Discharge as above indicated, with time counting twenty-four hours after arrival of vessel, whether in berth or not, Sundays and holidays only excepted. If discharge is not completed within the time specified demurrage to be paid at the rate of \$1 per net registered ton per running day, payable day by day.

Coke.—Subject condition that vessel to have option of carrying not over 25 per cent on deck at owner's risk.

The Flexible Steel Lacing Company of Chicago has perfected and is manufacturing a new belt fastener, designed for heavy belting and made in sizes for belts varying from 3/8 inch upwards in thickness.

The simplicity and strength of design of this new device, which has been named the "High Duty" fastener, have met with the approval of mechanical men to whom it has been submitted.

The "High Duty" fastener embodies a new application of the compression principle as applied to belt fasteners. It consists of two rectangular steel plates, which clamp on either side of the belt and are connected by bolts which go through the belt.

TWENTY DAYS ALLOWED TO OBJECT
TO WAR MINERALS FINDINGS

Secretary of the Interior Lane has announced that the following procedure had been adopted in connection with claims arising under the Act of March 2, 1919, known as the Minerals Relief Act:

The findings of the Minerals Relief Commission will be made and thereafter twenty days will be allowed claimant to file typewritten or printed brief based upon the record already made, making such comment on the Commission's findings as may be desired. At the end of twenty days the case will be finally submitted to the Secretary of the Interior. No new facts will be considered, those which have been submitted to the Commission only being given consideration. No oral argument will be heard.

Stocks of lead are believed to have increased since January 1. Normal domestic consumption is estimated at 400,000 short tons annually. At present, consumption in the manufacture of batteries is normal, of cable sheathing only 25 per cent, and in white lead and plumbing 80 per cent.—Bureau of Mines Minerals Investigations.

MINERALS SEPARATION DECISION

The far-reaching decision recently handed down by the United States Supreme Court in the case of Minerals Separation, Limited, *vs.* Butte & Superior Mining Company, is discussed quite at length by Mining and Scientific Press of June 21, which "deprecates any undue discouragement at this time and urges the leaders of the mining industry in the United States to consult one another for the purpose of defensive cooperation immediately, since the District Court of Montana must forthwith amend its decision in conformity with the decree handed down by the Supreme Court."

The validity of Patent No. 835120 having been established in the decision of the Hyde case, which limited the patent to a "critical proportion" of oil, "amounting to a fraction of 1 per cent on the ore," the defendant company took the position that the "critical proportion" so described was one-half of 1 per cent or less. To test its legal rights further, the Minerals Separation Company started its suit against the company which had backed Mr. Hyde in the original litigation, and the District Court of Montana refused to accept "one-half of 1 per cent" as the definition of the "fraction of 1 per cent." The Ninth Circuit Court of Appeals in San Francisco, however, accepted the interpretation, and the issue was again referred to the Supreme Court of the United States.

The highest court is now holding that the limiting of the patent to the use of one-half of 1 per cent of oil was an error, and that the patent extends to and covers the use of oils in amounts equal to any fraction of 1 per cent.

The Supreme Court also holds that the patents are protected to "a reasonable degree of variation" in the proportion of oil used by the Minerals Separation process. The conclusion of the court was that better results probably would have been obtained by the use of less than 1 per cent of pine oil alone, but since mineral oil has a "preferential affinity for metalliferous matter," the use of it is not an infringement if the aggregate amount of all oils is in excess of 1 per cent. The court says "the patent is on the process; it is not and cannot be on the result." "This is," says the Mining and Scientific Press, "important; it may serve as a new point of departure. In short, the patent rights of the Minerals Separation Company are upheld in respect of the use of any proportion of any oil up to 1 per cent, but not beyond that point. This, even in the present state of the art, does not give them a monopoly of flotation, but it is a blow to the economical use of the process because, although it can be conducted successfully with more than 20 pounds of oil per ton of ore, it is a fact that the larger proportion of oil is a nuisance in the mill and entails an extra cost of about one cent per pound of additional oil. Nevertheless, even the extra cost and trouble will be preferred by the managements of some of the mining companies to paying a royalty to the Minerals Separation Company and becoming subject to its inquisitorial methods."

In November, 1923, the patents of the Minerals Separation Company expire. The Butte & Superior Company has announced that it will continue to use the process of separating ore by the use of more than 1 per cent of oil in agitation. The Mining and Scientific Press expresses a "reasonable expectation that before the expiration of Patent No. 835120, four years hence, a more economical and more efficient process of concentration will be devised, for a number of new ideas are in course of trial."

No doubt Minerals Separation Company, Limited, will profit exceedingly by the finding of the United States Supreme Court. Several big copper mining companies will be forced to make heavy payments in damages for past infringements upon the process as fixed by the highest court in the land; and during the four years Minerals Separation will probably continue to practice its methods of the past several years to its own financial benefit, and to its own permanent destruction and injury to the entire mining industry.

"In the past its tactics have been needlessly offensive and we have not hesitated to condemn them," says the editor of the San Francisco publication. To this utterance the MINING CONGRESS JOURNAL wishes to add that these oppressive business practices have made Minerals Separation Company, Limited, one of the most thoroughly disliked business organizations in the United States. It is tragic, in a way, for a group of men, holding such rare opportunity, both for profit to themselves and helpfulness to an industry, to have been so near-sighted as to have made their very business memory anathema rather than to have created for themselves a real place in the industry with which they must associate.

The opening left by the Supreme Court, through allowing the use of an excess of oil in agitation, creates a most unusual situation for the flotation patent; that is, the process of using oil in agitation is no different whether one is using one-half of 1 per cent or an excess of 1 per cent.

A most important and interesting statement was made by the Mining and Scientific Press, which was: "An issue involving an enormous amount of money and vital to the interests of a basic industry has gone for adjudication to jurists devoid of the special education required for the purpose, and without the time needed for the proper preparation of the requisite understanding of the technical problems involved. . . . Other patents remain and further litigation is assured, for some of the patents antedating No. 835120 are held in this country by opponents of the Minerals Separation Company."

The memorandum of the American Mining Congress presented to the Federal Trade Commission by Pershing, Nye, Fry and Talmadge, as counsel for the Mining Congress, gives quite a lengthy history of the organization and business methods of Minerals Separation, Limited. It is shown that it is engaged in interstate

commerce, and that all its transactions are to be checked upon under the laws and rulings creating and issued by the Federal Trade Commission. It is also set forth that many methods "are expressly stated to be directed against inventors, manufacturers, vendors, lessors, licensors and users . . . of apparatus, processes, paraphernalia, supplies, data, samples and other commodities used in the separation and concentration of ores and not covered by any patents or patent rights controlled by the respondents," and charges "violation of law and public policy as regards patents and the exercise of patent rights. It quotes license agreements under which the company operates, showing how, by contract, Minerals Separation has forced the users of its process to assign or transfer any or all inventions or improvements in connection with the process of the Minerals Separation North American Corporation and reviews for the Trade Commission many decisions of the courts showing that such a contract, if carried out, is directly in opposition to the policies recognized as right and just by the courts and in business. The American Mining Congress also held that the Federal Trade Commission has jurisdiction in respect to exorbitant and discriminatory royalties charged by Minerals Separation and asks the Federal Trade Commission to explicitly direct as to the amount of royalties to be charged by the company, so that the "exorbitant and discriminatory royalties, which are the purpose and crowning accomplishment of years of unfair methods of competition on the part of the Minerals Separation North American Corporation and other respondents, may not be perpetuated after the mere practice of such methods has been discontinued."

Thus far the Federal Trade Commission has not determined its action, upon the appeal of the American Mining Congress, to be allowed to intervene in behalf of the industry as against the destructive methods of the corporation. As the patent is now in part only upheld by the highest court of the land, it is hoped that an early and favorable decision may be rendered by the commissioners and that the Mining Congress may be allowed to proceed actively in cooperation with other forces in the prevention of a continuous practice which has made the Minerals Separation Company a destructive rather than a constructive element in the development and continuance of the mining industry.

Coal for Switzerland

The War Trade Board announces that shipments of coal to Switzerland may be consigned to the Societe Cooperative Suisse d'Importation du Charbon; and furthermore that it is no longer necessary for the importers in Switzerland to obtain certificates from the Societe Suisse de Surveillance Economique covering such importations.

DETAILS OF GERMANY'S CHEMICAL TRADE IN THE U. S. IS REVEALED

America's dependence upon Germany's chemical industries before the war is pointed out in great detail in a census of chemical imports issued by the Bureau of Foreign and Domestic Commerce, Department of Commerce, with the cooperation of the American Chemical Society. The purpose of the bulletin is to show to American manufacturers the extent of the domestic markets for the various chemical lines that are now being manufactured in this country for the first time.

It is shown that nearly \$45,000,000 worth of manufactured chemicals were imported into this country in 1914, not counting dyes, which the bureau has covered in a previous bulletin. Of this total more than 40 per cent came from Germany, which was the chief source of supply. These German chemical products included a great many that could not be obtained from other countries, because they were patented or because the secret of their successful manufacture was not known in other countries. Some of them, especially the medicinal preparations, were of prime importance, although in dollars and cents the imports do not seem impressive.

A great obstacle in the way of getting the manufacture of these articles started in this country has been the fact that no one knew just how much of a market there was for them, and it was to supply this detailed information that the Bureau of Foreign and Domestic Commerce and the American Chemical Society undertook the compilation of this report. Firms who are obtaining German patents from the Chemical Foundation, recently organized under the direction of the Alien Property Custodian, expect to find in the statistics the facts they need to plan their operations intelligently.

In addition to being the chief source of imports of dyes and other coal-tar products, acids, fertilizers, and a long list of other chemicals, Germany normally supplied this country with large quantities of allied products, such as paints, pigments, and varnishes, all of which are shown in detail in the report. Imports by quantity and value of 2,500 products are included, and there is a list of 3,000 other products imported in amounts less than \$100 each. For most of these products import statistics are now printed for the first time.

George L. Pratt of Atlanta, Ga., who has been spending some time in Washington in connection with his claim under the War Minerals Relief Act, has returned to his home.



GREAT FIRST-AID CONTEST TO BE HELD IN PITTSBURGH

That America can bind her wounds as skillfully as she can fight will be shown in the great national first-aid and mine-rescue contest to be held under the auspices of the Bureau of Mines, Department of the Interior, at Pittsburgh, Pa., September 30 and October 1.

With the event still more than three months away, it reaches the Bureau of Mines that coal and metal miners all over the country are engaging in first-aid and mine-rescue contests to fit themselves for the national demonstration. In sixteen different mining states, local or state meets have already been held or will be held in the near future.

It is estimated that out of the million miners in the United States more than a hundred thousand are well trained in emergency first-aid work and have been instrumental in saving many lives in and around mines. It is said to be a frequent occurrence for hospital surgeons upon receiving an injured miner to declare that the first-aid treatment received in the mine from the miners had undoubtedly saved the man's life.

These first-aid teams are scattered throughout the United States where mines are found and are the results of the pioneer work of the Bureau of Mines in maintaining a mine-rescue car or station in each of the mining fields for the purpose of training these men.

In addition to this work, the bureau's experts teach the miners how to save life in mines, and especially the use of the oxygen mine-rescue apparatus that permits the wearer, after a mine explosion or disaster, to enter the deadly atmosphere there with comparative safety and succor possible living miners. These mine-rescue teams, located at the various mines, are also to participate in the national demonstration.

Already state first-aid and mine-rescue contests have been held at McAlester, Okla., and Lexington, Ky. The Colorado Fuel and Iron Company will hold such a contest at Trinidad, Colo., July 4; there will be a state meet at Norton, Va., on July 4; the Alabama Fuel and Iron Company will hold a similar meet at Birmingham, Ala., on July 4; and there will be a meet of the Big Sandy District at Pikeville, Ky., on the same day. At Butte, Mont., on July 28, the miners will hold a state meet and also on August 30 at Trinidad, Colo. Utah and southern Wyoming will be represented at a first-aid and mine-rescue meet at Salt Lake City, Utah, August 23. Arrangements have been made for the California state meet at Sacramento early in September. New Mexico is arranging for a similar meet about September 1, but has not yet selected the place. There will also be a state-wide meet for Washington on August 9 at one of the coal-mining centers in western Washington. In Pennsylvania, some time during the summer, there will be a number of first-aid meets for different coal-mining companies. At St. Benedict the Rembrandt Peale Coal Company will hold its meet during the summer; also at Greensburg the Argyle Coal Company will hold a meet; the Richmond Hill Coal Company at Hastings,

Pa., and the West End Coal Company at Mocanaqua will also hold a meet of the local coal companies at Barnesboro, Pa. Tennessee will have a meet at Jellico some time in September, and Illinois will hold a state-wide first-aid and mine-rescue meet at Springfield at a time to be announced later.

"Whether or not it is the reaction from the killing of men in the recent world orgie, or the release from the strain of the tremendous war production of coal," said Van H. Manning, Director of the Bureau of Mines, "the miner today is bending his best interests to the saving of life. From the reports that come to me, there is the utmost enthusiasm in these trial first-aid and rescue meets and almost as much interest as if the national meet were a great, country-wide athletic contest involving the whole people. The national meet promises to break all preceding events in numbers and enthusiasm. It is to be the miner's own field day, in their own way, and the honors are to go to the most efficient, the most skillful in the saving of human life. I expect that this national miners' tournament will have a wholesome effect on the industries of the country generally."

Honor for Dr. Van H. Manning

The announcement that the honorary degree of Doctor of Engineering has been conferred upon Van H. Manning, Director of the Bureau of Mines, by the University of Pittsburgh, was public recognition of a well-known service rendered by Director Manning during the war. It was largely due to the deep personal interest of the director that the chemical and research departments of the bureau began, soon after war was declared, to meet the needs of the Army and Navy for fighting gas and non-explosive gas for air service. It was largely due to his foresight that much necessary research and experiment work during the early years of the European war eliminated many problems which cleared the way for quick and conclusive work when America's need came. And, while the Army has endeavored to take credit for the wonderful development of the gas-warfare division, it is well known to friends of the Bureau of Mines that the credit belongs to the bureau under Dr. Manning and not to the War Department. In presenting the degree to the director, Dr. Raymond F. Bacon, Director of the Mellon Institute, said:

"I have the honor and pleasure to present the distinguished Director of the United States Bureau of Mines, Mr. Vannoy Hartog Manning, for the degree of Doctor of Engineering. This distinction is most appropriately conferred upon Mr. Manning in recognition of his leadership of all work on the conservation of our natural resources. Possessing the highest executive ability, an authority on mineral technology, Mr. Manning has rendered inestimably valuable service to the nation in the development of the activities of our world-famed Bureau of Mines and in demonstrating to our industrialists and legislators that research is the basis of national development."

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Women in Industry

The total number of women employed under the United States Railroad Administration reached the high-water mark on October 1, 1918. At that time there were on the rolls 101,785 female employees.

Statistics compiled by the Women's Service Section of the U. S. Railroad Administration, giving the number of women employed and the character of their employment since the roads came under federal control, were made public by Walker D. Hines, Director General of Railroads.

The number of women employed on April 1, 1919, shows a decrease of 14.3 per cent as compared with January 1, 1919. On January 1 of the present year there were on the rolls of the railroads 99,694 women employees, while on April

1 the number had dropped to 85,393. This was due chiefly to the reduction of labor force which occurred in February and March. It was also partly due to the return of men from military service who were reinstated by the railroads. On the Eastern lines the drop was 17.7 per cent, while in the South it was 6.5 per cent, and in the West 11.4 per cent.

The clerical or semi-clerical occupations, including all the office-workers, ticket sellers and telephone switchboard operators, constituted the largest percentage of the total for the year 1918, being 72 per cent. The statistics show that more than 5,000 women were employed in railroad shops and more than 1,000 in round-house work. The latter included, among others, turntable operators and engine wipers. On October 1, 1918, there were six women employed as blacksmiths, helpers and apprentices while a large number of others worked as boiler makers, coppersmiths, electricians and machinists. There were 377 women employed as station agents, assistants and agent operators on the same date, while 50 were at work as switch tenders. There were 931 pushing trucks and handling freight. Watchwomen to the number of 518 were employed on the railroads, doing duty both day and night.

The report shows that considered from the point of view of occupation, the greatest reduction of women employees has taken place in round-houses and shops. Their work in these places was in many cases found unsatisfactory, there being too much heavy physical labor involved. Under these circumstances it was unavoidable that they should be dropped when man labor again became available.

In the clerical occupations best fitted for women, the total number employed at the present time is 68,129. There has been a reduction in this group of 11.2 per cent.

War Minerals Claims

When the docket of the War Minerals Relief Commission closed, June 2, claims aggregating \$18,000,000 had been filed. Shortly thereafter the commission left for extended hearings, which will be held in the centers most convenient to those having claims.

The commission's interpretation of the many important features of the law will be held in abeyance so that arguments may be presented by those concerned.

Thomas Thornton Read well known to mining men as formerly associated editor of The Mining and Scientific Press, has been added to the staff of Director Manning, of the Bureau of Mines, charged with the special duty of investigating the work of the bureau in relation to the public welfare.

REAL INDUSTRIAL DEMOCRACY

BY JOHN T. BURNS

I do not know John Leitch of Philadelphia. I never saw William DeMuth of New York City.

I assume that Mr. DeMuth is not the superintendent of a Sunday School, basing the assumption on the fact that Mr. DeMuth secures his income from the manufacture of "smokers' supplies."

The readers of the MINING CONGRESS JOURNAL will recall the recent editorial "Over the Table," and to those readers I wish to relate the story of John Leitch's idea and how it was worked out by William DeMuth, an employer of 900 men and women in the town of Richmond Hill. Mr. DeMuth had erected a great plant and established his trade mark with a wide reaching trade. He was a busy man in business hours, but devoted his golfing time to a study of the economics of his trade. That led him to study his men and women employees.

In fifty years of business he had experienced little labor trouble, but he saw that the profits of the concern were not all that they should be, largely because of "leaks," or waste caused at times by idle machines, at others by lack of cooperation and always by wasted material through efforts of price-workers to rush their work, to increase the day's earnings. Besides, the "rush work" resulted in lowering the quality of some products.

DeMuth heard of John Leitch, a "business engineer." Leitch outlined a plan of "democratization" for the factory. It was to be a Great Experiment. Leitch outlined his plan to the 900 employees. Leitch proposed that any saving in costs resulting from the adoption of his plan should be divided between employees and firm, division to be made every two weeks. DeMuth & Company were ready to try the experiment. The employees, timorously adopted the innovation and, creditably to themselves, went to work with a will to prove or disprove its practicability.

This was two years ago.

The first two weeks settled the permanency of the plan. The first dividend was 6½ per cent. Since then it has been as high as 17½ per cent.

And for two years the plan has been known as "The DeMuth Industrial Democracy."

The "plan" includes the following political organization: A "Cabinet" composed of the executive officers of the company; a "Senate" composed of the foremen and superintendents of the factory; a "House of Representatives" elected by the employe body, on the basis of one representative to 30 employes.

The qualifications for membership in the "Lower House" are ability to speak and write in English, to have been on the pay roll of the company one year or longer, to be known as "square" in all matters, and of good repute.

The "Lower House" discusses, in weekly sessions, all of the week's developments. It

takes on and works out the firm's troubles as it does those of the workers. Its "bills," if passed, go up to the Senate for ratification. From the Senate they go to the Cabinet and, if adopted, become working laws. The Cabinet has the power to veto. In two years there has never been occasion to veto, which speaks well for the judgment of the House of Representatives. The firm abides, as it agreed to do, by the actions of the body politic.

"Horse play," says some one. "Boys' work," says another. All right, opinions are easily given, sometimes unthoughtfully. But check on the *results*.

1. In two years, no strikes; not a machine idle an extra day without cause.

2. Complete accord between employer and employe.

3. Every employe sees to it that his fellow-worker does his utmost *all the time* because each man's dividend depends on his fellow-worker.

4. Hours of labor cut from 53 per week to 48 and output of factory maintained at original standard.

5. Quality of output improved.

6. Continued payment of dividends, thus increasing wages of employe and profits of firm.

7. Employees consider they work upon a permanent basis and assume responsibility for firm's property and business prosperity.

8. Employees profit from both saving in production and saving in overhead, as, for instance, the five hours per week of overhead expense saved by shortening working hours, is a large sum. This is a credit account continuously.

9. American born employees take interest in educating other nationalities, as education tends to improve their work and add to dividends.

10. It is no longer the foreman who tells a man to "get busy on the job;" it is his fellow-workers who suffer by his failures. The man who "knocks off early" or is absent without cause has to explain—not to the firm but to the workers, who have to pay for his idleness.

This DeMuth plan of "Industrial Democracy" is already attracting attention among manufacturers, and many are visiting the big pipe plant to interview the firm and the workers.

Perhaps John Leitch and William DeMuth have already immortalized their names. It appears so to the writer.

To show how well the rule works both ways, a member of the House of Representatives says: "The reason I am for industrial democracy heart and soul is that I can always get a square deal. Every question has been settled fairly. Nobody goes around nursing a grievance any more. He tells it to his representative and it is looked after before it gets to be serious. Nobody ever 'lays down' on the job. It does not pay. The man who used to go around with a good idea for machinery improvement in his head

now puts his labor-saving device to the test in the factory, and some of these devices are lowering costs, increasing production and adding to our dividends."

William DeMuth, the head of the concern, is filled with the enthusiasm naturally resulting from such success. He says that the plan can be made workable in any institution employing any number of men or women. He insists that the industrial democracy has in no way weakened the authority of the firm over its employes or business but, on the contrary, has strengthened the hold of the DeMuth Company on its workers, by sharing the responsibilities for perfect harmony and high quality of work.

"Even during the war, with the lure of 'war plant wages' before them," said Mr. DeMuth, "our employes saw to it that their fellow-workers remained at their places or brought in friends to fill vacancies."

In telling this story I am suggesting nothing. The economic situation is sufficiently uncertain to allow every employer and every laboring man to find a lesson in everything which works out satisfactorily. The DeMuth industrial democracy *has* worked out that way.

A closing thought: The man who has a good job, who is interested in making it a better job, who is contented and perhaps owns his own home, isn't apt to become a bolshevist and toss his substance to the birds.

ULTIMATE PRODUCTION OF OIL WELLS SUBJECT OF BULLETIN

A bulletin on the "Decline and Ultimate Production of Oil Wells, with Notes on the Valuation of Oil Properties," by Carl H. Beal, has just been issued by the Bureau of Mines, Department of the Interior. This bulletin outlines methods for estimating the amount of oil that may be recovered from properties in the various oil fields of the United States, as well as data on the application of these methods in the valuation of oil properties. The methods are essentially those adopted by the Bureau of Internal Revenue in allowing for depletion charges on oil properties in income and excess profit taxes, the methods of the Bureau of Internal Revenue being founded on the methods developed by Carl H. Beal and others in the Bureau of Mines.

One of the most vexing problems that confronts petroleum producers and petroleum engineers is the estimation of the total amount of oil that may be obtained from the oil wells and from oil lands and the rate at which the future productions may be obtained. This is a problem upon which much thought has been given and much work been done in the past, but it has only been within recent years that it has been brought down to a rational engineering basis. The bulletin of the Bureau of Mines is a record of the work done by many engineers with much information in advance that has been developed by the Bureau of Mines.

It is obvious that an estimate that is reasonably reliable is an extremely valuable bit of information to the producer, to the prospective

buyer, to the pipeline companies, and refiners depending upon certain sources of supply, and for the purpose of determining depletion allowances for bookkeeping or taxation. In the past this has usually been done upon the personal judgment of the producers of wide experience, though many of the principles employed in this bulletin have been used consciously or unconsciously by producers; as, for example, observing the rate at which production falls off. The bulletin is the result of a rational and systematic compilation and analysis of records whereby essential principles and facts are established and the factor of personal experience and judgment is almost eliminated.

The bulletin outlines old and new methods for estimating the output of oil lands and gives numerous curves and other data which should be of great assistance to oil producers and engineers in determining the probable amount of oil that a property might yield. The problem of the application of methods of oil valuation is covered and explanations given in the use of methods in computing depletion allowances in bookkeeping and in taxation. The bulletin should do much towards developing scientific methods for the buying and selling of properties, amortizing capital investment, and in estimating future productions of properties and fields in the United States.

Bulletin No. 177 may be obtained free of charge by application to Van. H. Manning, Director of the Bureau of Mines, Washington, D. C.

IMPORT RESTRICTIONS ON TIN AND METAL ALLOYS REMOVED

The War Trade Board announce that applications will now be considered for licenses to import pig tin and all metal alloys containing tin, including tin drosses, tin oxides, solder drosses, type metals, anti-friction metals, waste metals, and other metals containing tin; subject, however, to the following conditions and limitations:

1. That such licenses will permit the importation only of shipments made from points of origin on or after June 30, 1919; and
2. That such import licenses will not be valid for entry until August 1, 1919.

Stephens-Adamson Mfg. Co., Aurora, Ill., announce their new representation in the San Francisco district.

The firm of Bannon, Bodinson, MacIntyre, Inc., 317 Market Street, San Francisco, will have charge of the engineering sales work in this territory. The members of this firm and the technical staff are trained men with wide experience in designing, elevating, conveying and screening machinery.

The S-A Products are in such demand in this district that it was found advantageous to establish this new branch to give S-A customers the same engineering sales services as are so valuable in other territories.

CALIFORNIA MINERAL OUTPUT IN 1918 REVIEWED BY HAMILTON

The statistical division of the State Mining Bureau, under the direction of Fletcher Hamilton, State Mineralogist, has now received complete returns from the operators on the output of a number of the mineral products for 1918. The data are given herein in advance of the main report, in order that those interested may receive the information, at an early date. The date of publication of the final and complete bulletin on the mineral yield of the year is dependent upon the promptness of the replies from the operators. So far this season, the bulk of the returns have come in earlier and in better form than in previous years; for which reason, it is expected that the final bulletin will be issued earlier than usual.

The output of asbestos in 1918 amounted to 229 tons valued at \$9,903, as against 136 tons worth \$10,225 in 1917. The material was entirely of the chrysotile variety and came from Alameda, Calaveras, and Nevada counties, mainly the last named. It was employed principally in magnesite cement stucco, flooring, and steam-pipe covering. Some of the Nevada County product is of No. 1 spinning fiber.

The output of borax in 1918 amounted to 88,772 tons, valued at \$1,867,908, as against 109,944 tons worth \$2,561,958 in 1917. The product is entirely from the colemonite deposits of Inyo and Los Angeles counties.

The output of cement in 1918 amounted to 4,772,921 barrels valued at \$7,969,909, compared with 5,790,734 barrels worth \$7,544,282 in 1917. Because of the curtailment in general building operations on account of the war, there was a decrease in the volume of cement used, but the average selling price was materially higher. The result was a net increase of \$425,627 in the total value over the preceding year.

The output of magnesium salts in 1918 amounted to 1,008 tons valued at \$29,955, compared with 1,064 tons worth \$34,973 in 1917. These salts were the product of bittern waters at two plants on San Francisco Bay and one at Long Beach and consisted mainly of magnesium chloride sold for use in Sorel cement for magnesite flooring and stucco. A small amount of magnesium sulphate was also made at one of the Alameda County plants.

The output of pyrite in 1918 amounted to 131,029 tons valued at \$425,012 as against 111,325 tons worth \$323,704 in 1917. The material came from two properties in Alameda County, and one each in El Dorado and Shasta counties; and was utilized for the manufacture of sulphuric acid.

The output of pumice and volcanic ash in 1918 amounted to 2,114 tons valued at \$28,669, as against 525 tons worth \$5,295 in

1917. The increase was due to shipments from a newly operated deposit near Mt. Shasta in Siskiyou County, and to larger shipments from Imperial County. Both of these deposits are of the vesicular, block pumice. A small tonnage of high-grade volcanic ash was sold from Humboldt County.

There was a small output of barytes in Monterey County, cadmium in Shasta County, fluorspar in Riverside County, lithia mica (lepidolite) in San Diego County, onyx marble in Solano County, and serpentine "marble" in Los Angeles County; of a total value of \$97,732. As there was but a single operator on each of these substances in each locality, the figures are combined so as not to reveal the individual's business.

There was a small tonnage of sulphur produced in 1918 at each of two new plants in Colusa and Inyo counties, toward the end of the year, but none of the product had been shipped up to December 31.

FAY POINTS OUT NEED FOR ACCURATE ACCIDENT FIGURES

Speaking before Minnesota and Michigan mining men at the recent safety conference, A. H. Fay, of the Bureau of Mines, said in part:

"Considering the vastness of the mining operations of Minnesota and Michigan, the safety engineer has a large field in which to work and opportunity to accomplish results that cannot be obtained elsewhere. The progress in the Lake Superior District in the last ten years in matters of safety and safety appliances and mine inspection is evident from the accident record and from a casual observation of the safety appliances installed. This progress is further evidenced by the large number of safety engineers employed in the mines in this district, and your interest in matters of safety is shown in the active part you take in meetings of this character.

"Before offering any suggestions as to what the safety engineer can do for accident statistics, it is well to point out some of the reasons why accident statistics are necessary. It is not to preserve a record of discomfort, pain and suffering of injured employes that statistics are collected, nor to furnish statisticians with a set of figures which may be juggled to suit any peculiar whim and utilized for the construction of fancy charts. These, however, are necessary adjuncts to the main purpose, viz., to obtain information by which to diagnose industrial accidents in order to determine their cause and provide a remedy. In every court of justice it is necessary to have all the available evidence to identify the guilty one, in order that proper verdicts may be determined and just sentences imposed. Statistical records are essential as evidence to prove the guilt of certain mechanical devices, which assault with intent to maim or kill, and to determine with a reasonable degree of accuracy the personal element entering into the cause of accidents.

"There are a few mine operators who have not awakened to the need of accident statistics and therefore feel, when asked for certain information concerning accidents to their employes, that it is a sort of inquisition being forced upon them to disclose their private business. Far be it from this. It is for their benefit as well as for the welfare of their employes. Whatever helps human beings in the matter of health and comfort will pay good dividends to the man who provides these essentials. Sick and crippled employes in the hospital or at home are a burden to themselves and their families, the community and the state, without any benefit whatever to their employers. Even though a crippled man may be employed as a pensioner, he cannot render full service to his employer, his family, nor the community.

"Statistics should embody all of the information available concerning each accident if the best results toward accident prevention are to be obtained. So long as accidents occur, it is necessary for the safety engineer to keep correct and detailed records. It is not enough to know that a man fell down a shaft and was killed. Why did he fall down? Who was to blame? Was the shaft properly guarded? Could the accident have been avoided? It is the answer to these questions that should be recorded in accident statistics. The safety engineer should study intelligently every accident from all angles. If the accident was preventable, he should install a device that will prevent its occurrence again. At the close of the year, he should take an inventory of his accident records with the object of finding out what and who was to blame for each group. Having found out the principal causes, he should see that proper remedies are then applied; for example, should it be known that a certain type of machine has cut off a dozen fingers during the year, the remedy is not to supply additional fingers, but to devise a guard for the machine or install another type for this particular work.

"If human beings were perfect and it were possible to devise perfect machinery, there would be no need for accident statistics. While someone had a lapse of memory for an instant, a machine that is under human control moves 3 inches too far and crushes a man to death. Another man did not look where he was stepping and, as a result, fell down a shaft. True enough, the shaft should have been guarded to prevent the thoughtless from going into it. Industries have many accidents because of mistakes; many accidents occur because of carelessness, and many because of improper mechanical devices. Mistakes are made by managers as well as by the employes; both are often careless, and both are responsible for mechanical equipment, the employer in providing it and the employe in keeping it in proper condition when installed and turned over to him to operate. The safety engineer should see that proper machinery and other appliances are installed, and he should also see that they are properly operated and cared for. The safety engineer is a 'middle man' between the operator and the miner."

OIL FOR NAVY TO HAVE

FIRST CALL ON TANK SHIPS

In answer to request for tonnage made by private firms to enable them to tender on the proposals covering the fuel oil requirements of the Navy, the United States Shipping Board announces that during the fiscal year beginning July 1, 1919, it will, to the extent of its available tank tonnage, give priority to those firms who may hereafter receive award for the delivery of petroleum products for the account of the United States Government.

Allocations will be made on government time form at the uniform rate of \$6.50 per deadweight ton per month or on a voyage basis at the rate indicated below:

	Cents
Mexico to Boston or Portsmouth, N. H.	85
Mexico to New York or Providence, R. I.	80
Mexico to Baltimore.....	77
Mexico to Norfolk.....	75
U. S. Gulf Ports to Boston or Portsmouth.	79
U. S. Gulf Ports to New York or Providence.....	74
U. S. Gulf Ports to Baltimore.....	71½
U. S. Gulf Ports to Norfolk.....	69

Voyage rates between other points may be had on application to the Tank Steamer Executive, New York City.

Voyage charter parties will provide for 144 hours loading and discharging and demurrage at the rate of \$80 a running hour, reduced to \$40 a running hour in the event of machinery breakdown.

The rates apply on cargoes for United States Government account only during the fiscal year ending July 1, 1920, without prejudice to any rate that may from time to time be established on fixtures for private account.

Magnesite Situation Unchanged

So far as the general situation in the magnesite industry is concerned, there has been no marked change from the quiet conditions prevailing during the past five or six months. This industry is linked intimately with other large industries like the steel and copper industries in which magnesite is used in furnace linings, and to the building trade, where it is used in making special high-grade flooring materials. To a less extent it is employed in making insulating, nonconducting and fire-proofing materials, and in certain medical products like Epsom salts. Probably 85 to 90 per cent is used in the refractory industry, and the remainder chiefly in the flooring trade. Until the steel and building trades take a new start, little can be hoped for in the magnesite business.—Bureau of Mines Minerals Investigations.

Bulkeley Wells, president of the American Mining Congress, after spending several weeks in New York, Boston and the East, is again at his Denver office.

NATIONAL LEGISLATION

Congress has been largely engrossed during the past month in the consideration of the large appropriation bills and discussion of the League of Nations. The only bills of importance to mining that have passed both Houses are the Sundry Civil Bill and S. 47, authorizing mining on Indian Reservations, which was made possible because it was made a part of the Indian Appropriations Bill.

Hearings have been held before the Ways and Means Committee of the House on tariff legislation. Tungsten, magnesite, dye stuffs, zinc and potash already have been heard. Arrangements are being made to provide hearings for all those who desire to be heard. *H. R. 2029* and *H. R. 1246*, discussed last month, are still in committee. *H. R. 1692* is incorporated in S. 47, which, as above mentioned, has passed both houses. *H. R. 544*, creating a permanent employment department in the Department of Labor, met with strenuous opposition from many sources. Congressman Blanton of Texas led the opposition in the House. \$400,000 is included in the Sundry Civil Bill to meet the provisions of this bill.

H. R. 496, The Ferris Leasing Bill, is still before the House Committee on Public Lands, but it is expected that it will be reported out early in July. *H. R. 487*, by Mr. Mondell, the National Soldiers Settlement Act, is expected to be reported from the Public Lands Committee daily. It is understood that this bill is being favorably considered. *H. R. 1186*, Mr. Steele's bill conferring additional power on the Federal Trade Commission, is before the House Interstate Commerce Committee. Mr. Steele personally appeared before the committee in behalf of the measure, but no action has been taken. *H. R. 188*, Mr. Taylor's "Blue Sky" bill, is before the House judiciary Committee, no action having been taken thereon.

During the month the following bills of interest to mining men have been introduced:

Graphite—*H. R. 5941*: Introduced by Mr. Heflin provides for a tariff of 1 cent per pound of crude graphite ores, which contain 50 per cent or under of graphite carbon; 2 cents per pound of graphite for ores containing 50 per cent graphite carbon. The bill defines crude graphite as ore which has not been subjected to any process of refining or concentration, which changes the graphite content of the ores as mined; a duty of 3 cents per pound upon lump and chip crystalline graphite (plumbago, silver lead) is provided for. Lump and chip are defined as larger crystals of graphite more or less broken up in mining and treatment, of a size which will not pass through a screen with opening one-quarter of an inch square. A duty of 6 cents per pound of graphite is imposed for Flake crystalline graphite (plumbago, silver lead). The term "flake" is defined as the smaller crystals of graphite, more or less broken

up in mining and treatment, of a size which will not pass through a screen with openings one-quarter of an inch square. Upon all other products, manufactured materials and compounds, containing graphite, crystalline or amorphous, not specifically provided for in this Act, a tariff of 5 cents per pound for the graphite contained therein is imposed.

Tariff

Quicksilver—*H. R. 6658*: Introduced by Mr. Lufkin, provides for a duty of 35 cents per pound upon all quicksilver imported into the United States or any of its possessions, and a duty of 35 cents per pound of mercury content upon ores or compounds of mercury or manufactured compounds.

Potash—*S. 1022*: Introduced by Mr. Henderson. This is the same bill Mr. Henderson introduced in the 65th Congress, which failed to pass the Senate, largely because of the filibuster. It is substantially the same as the bill introduced in the House by Chairman Fordney of the Ways and Means Committee, which is reviewed in these columns.

Potassium—*H. R. 4870*: Introduced by Mr. Fordney, to provide revenue for the Government and to safeguard, by a license control of imports of potassium salts and by imposing an import duty thereon, the interests of domestic potash producers. The bill gives to the Secretary of the Interior the authority to issue licenses to persons, firms, or corporations for the importation of potassium salts. The bill provides that thirty days after the approval of this act no potassium salt shall be imported into the United States without such a license. Licenses shall state the amount and kind of potassium salts and the equivalent of these salts expressed in terms of potassium oxide that can be produced therefrom. Licenses can be issued only upon condition that the applicant has purchased or contracted under a satisfactory guaranty to purchase an amount of potassium salts produced in the United States, bearing the same ratio to the amount which he is permitted to import as the estimated total domestic production bears to the difference between this estimated domestic production and the estimated total requirements of the United States. Estimates of the requirements of the United States shall be made by the Secretary of the Interior at intervals of not less than 6 months. If the Secretary shall find that domestic potassium salts are not being produced, or are not likely to be produced in time or at a cost to make them economically available in the United States in the quantity which he had estimated would be available, or whenever he shall find that the price thereof is not fair and reasonable, he may issue licenses for the importation of potassium salts in excess of the proportion fixed under this act. The bill fixes the price for the first 24 months after the passage of the bill

at not to exceed \$2.50 per unit of potassium oxide; for the succeeding 12 months \$2 per unit, and for the remaining time \$1.50 per unit. \$150,000 is appropriated for the necessary expenses of administration. Five years after the proclamation of peace, the power of the Secretary of the Interior under this act shall cease. The bill provides that upon all potassium salts imported, after five years after the proclamation of peace, from any foreign country into the United States or into any of its possessions except the Philippine Islands and the islands of Guam and Tutuila, a duty equivalent to 10 cents per unit of potassium oxide that can be produced from such potassium salts shall be collected. The term potassium "salts" includes only potassium salts of a purity of 98 per cent or less, and mixtures and compounds containing such potassium salts—muriate or chloride of potassium, sulphate of potassium, carbonate of potassium, and nitrate of potassium.

Pyrites.—H. R. 5215: Introduced by Mr. Slomp. The bill provides the following tariff duties: Pyrite and all crude iron sulphide minerals, 15 cents per unit of the sulphur content thereof. On sulphur, in whatever form, not otherwise provided in this act, 15 cents per unit of sulphur content of any product so imported.

Manganese.—H. R. 5216: Introduced by Mr. Slomp, provides for a tariff duty on crude manganese ores and on manganiferous ores and concentrates thereof, the sum of 35 cents per unit of metallic manganese therein contained. The bill provides for a minimum duty of not less than \$10 per ton upon such ores and concentrates so imported. Upon ferromanganese and spiegeleisen and other alloys and compounds containing manganese and all other manufactured articles and materials containing manganese, not especially provided for herein, 75 cents per unit of the manganese contained therein, with a minimum duty of not less than \$50 per ton upon all such ferromanganese so imported, and a minimum duty of not less than \$30 per ton upon all spiegeleisen so imported.

Magnesite.—H. R. 5218: Introduced by Mr. Hadley, provides that a duty of three-fourths of a cent per pound shall be paid upon magnesite, commercial ore, either crushed or ground; one and one-fourth cents per pound on magnesite, calcined, dead burned, and grain; 25 per cent ad valorem on magnesite brick. The bill expressly repeals Section 539 of the Tariff Act of October 3, 1913.

Zinc.—S. 6238: Introduced by Mr. McPherson, provides that all zinc-bearing ores containing more than 10 per cent and less than 25 per cent metallic zinc, which are imported from any foreign country, shall be required to pay a duty of $1\frac{1}{2}$ cents per pound on the metallic zinc contained therein. Zinc ores containing more than 25 per cent of metallic zinc shall pay a duty of 2 cents per pound on the metallic zinc content. No duty is imposed upon the zinc metallic con-

tent of ores containing less than 10 per cent of metallic zinc. All duties are to be estimated at the port of entry and a bond is to be given in a sum double the amount of such estimated duties for the transportation of the ores by common carrier bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling or smelting establishments, whether designated as bonded warehouses or otherwise. Upon arrival at such establishment the ores shall be sampled according to commercial methods under the supervision of government officials who shall submit the samples thus obtained to a government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample and report the result to the proper customs officers. The import duties as provided by this Act shall be liquidated thereon. Section 2 of the bill provides that on zinc in blocks or pigs or zinc dust imported from any foreign country, a duty of $1\frac{1}{2}$ cents per pound is imposed. In sheets, $1\frac{7}{8}$ cents per pound; in sheets coated or plated with nickel or other metal or solutions, 2 cents per pound; old and worn out, fit only to be manufactured, 1 cent per pound. Section 3 provides for the levying on zinc, oxide of zinc, and white pigment containing zinc, but not containing lead, dry, 1 cent per pound; ground in oil, $1\frac{3}{4}$ cents per pound; sulphide of zinc, white or sulphide of zinc, $1\frac{1}{4}$ cents per pound; chloride of zinc and sulphate of zinc, 1 cent per pound. The bill repeals all existing laws fixing the rate of duty on the commodities mentioned in the Act.

Dye Stuffs.—H. R. 2706: Introduced by Mr. Longworth, provides for duties upon dye stuffs. The bill provides that certain chemicals may be admitted without duty, that certain others shall pay a duty of 35 per cent ad valorem, and others a duty of 50 per cent ad valorem. The chemical terms employed are such as to be understood only by those who are familiar with the chemical intricacies of dye manufacturing and will not be of interest to the general public. Those who have special interest in this should see the original bill and copies will be supplied upon request of interested parties to the extent that same are available.

Labor

H. R. 6556: Introduced by Mr. Mays, to establish a Bureau of Citizenship and Americanization in the Department of Labor for the Americanization of naturalized citizens and amending the act establishing the Bureau of Immigration. The duty of the Bureau so created is the Americanization of persons seeking American citizenship by naturalization. A Director of Citizenship is appointed, at a salary of \$5,000 per year, and an associate director at a salary of \$4,500 per year. The duty of the bureau is the investigation of conditions and environment of permanent residents, with a view to ascertaining their sentiment as to loyalty to this country and to assist in promoting loyalty by furnishing advice and information which will increase such regard and loyalty.

\$150,000 is appropriated to carry out the provisions of the bill.

S. J. Res. 44: Introduced by Mr. Edge, which provides for the creation of a commission to devise a policy of cooperation between employers and employes in the United States.

The bill appropriates \$25,000 for the purpose of a study of the relations between the employing and working elements. It creates a commission whose duty it is to devise a general policy of counsel and cooperation between employer and employe, and to report a plan for a permanent joint council, which shall have eight members, four representing labor and four representing capital. Government employes or officials are debarred from a place on the commission. The committee shall be called the "Joint Economic Commission" and is to be appointed by the President. The commissioners are to serve without compensation, the appropriation being spent for such experts and clerical assistants as may be necessary.

H. J. Res. 114: Introduced by Mr. Sabath, authorizing and directing the Secretary of Labor to make an investigation and report regarding insurance against unemployment, invalidity, and old age. The bill appropriates \$50,000 to be disbursed by the Secretary of Labor, to investigate and report to Congress by the first Monday of December, 1919, upon the advisability of adopting a system of national insurance against unemployment, invalidity, and old age.

H. R. 4830: Introduced by Mr. Mason, provides for a Bureau of the Unemployed, to be incorporated in the Department of Labor, for a Commissioner of the Unemployed, receiving a salary of \$6,000 per year, and a Deputy Commissioner at a salary of \$4,000 per year to act in his place. The bill provides for a census at as frequent intervals as possible of the unemployed of the United States; to make and keep a classified enrollment of the unemployed by avocations; to correct and keep full records of the industrial and commercial conditions throughout the United States, especially in relation to opportunities for the employment of labor; to furnish the fullest possible information to the unemployed of opportunities for employment in any part of the United States, and to devise a plan for facilitating the movement of the unemployed to places where opportunity for employment exists. The bill provides that a report of such investigation shall be made to Congress and the President annually, and oftener if requested. It also provides for the cooperation of the Post Office Department, the Interior Department, the Agricultural Department, the Department of Commerce and the United States Railroad Administration, in taking the census and securing the information necessary.

H. R. 3474: Introduced by Mr. Riordan, to repeal the literacy test. The bill provides that three months after the passage of this Act, in

addition to the aliens now excluded from admission to the United States, all aliens over sixteen years of age, physically capable of reading, who cannot read the English language or some other language or dialect, shall be excluded from admission to the United States. It provides that an alien who is now a citizen of the United States may bring in his father, wife, mother or widowed daughter, whether such relatives can read or not. It provides for the use of the immigration inspector slips containing thirty or forty words of ordinary use, which each alien is required to read or print in such language or dialect as he may best know. The bill does not apply to those persons who are seeking admission to avoid religious persecution.

S. 1472: Introduced by Mr. Harrison, to prohibit immigration for a period of five years. The bill provides that immediately upon the passage of the Act all immigration be stopped for a period of five years. The bill does not apply to foreign governmental officials, their families, attendants, servants, etc., ministers or religious teachers, lawyers, students, authors, chemists, civil engineers, physicians and travelers for pleasure, business or curiosity. The bill also provides for seamen of foreign birth and prescribes fines for the violation of the Act.

S. 1442: Introduced by Mr. Kenyon to provide for the establishment of a national employment system and for cooperation with the states in the promotion of such system and to regulate the expenditure of moneys that shall be appropriated for such purposes. The bill creates, in the Department of Labor, a bureau to be known as the United States Employment Service, and provides for a director of such bureau at a salary of \$5,000 per year, together with a woman assistant director general who shall receive a salary of \$3,000 per year. The duty of the bureau shall be to establish and maintain a national system of employment offices. They shall coordinate the public employment offices throughout the country by furnishing information as to labor conditions, by maintaining a system for clearing labor between the several states, establishing uniform standards, policies and procedure, and by assisting in the transportation of workers to such places as may be deemed necessary for the purpose of securing employment. The bill appropriates four million dollars for the fiscal year ending 1920, and for each fiscal year thereafter up to and including the fiscal year ending June 30, 1922. The bill provides that the Secretary of Labor allot not less than 75 per cent of the money for the maintenance of public employment offices in the several states. When the state shall make an appropriation for the maintenance of a system of public employment offices, or is prepared to maintain such a system in cooperation with the United States Employment Service, there shall be paid to the Treasurer of the State, upon certificate to the Secretary of the Treasury, an amount

not exceeding the amount allotted for the current year to such state by the Secretary of Labor.

The amount so appropriated by the state shall not be less than 25 per cent of the allotment according to the population, made by the Secretary of Labor, and shall not be less than the amount so appropriated by such state for public offices in the year 1918, and not less than \$5,000. The Secretary of Labor is authorized to prescribe rules and regulations and standards of efficiency for conducting such offices, and it shall be the duty of the Secretary of Labor to ascertain whether the system of Public Employment Offices maintained in each state is conducted in accordance with the rules and regulations prescribed by him.

Public Lands

S. 1257: Introduced by Mr. Myers, providing for agricultural entries on coal lands. Upon passage of the act, all unreserved public lands, exclusive of Alaska, which have been withdrawn or classified as coal lands, shall be subject to entry, selection or sale under any of the non-mineral public land laws, applicable to the particular lands desired if not containing coal, and to withdrawal under the Reclamation Act, whenever such entry shall be made with a view of obtaining or passing title with a reservation to the United States of the coal in such lands, and of the right to prospect for mine and recover same.

S. 1729: Introduced by Mr. Smoot, permitting minors of the age of eighteen or over to make homestead entry on the public lands of the United States. Any minor of eighteen years or more is permitted to make homestead entry but is not permitted to make final proof upon such entry or to receive patent therefor until he or she shall have attained the age of twenty-four years. The same laws as to cultivation and improvement of the land as apply to all entrymen are enforced, but they will not be required to establish or maintain a residence thereon until they have reached the age of twenty-one years.

H. R. 6550: Introduced by Mr. Mays, providing that upon passage of the bill no public lands of the United States containing minerals shall be withdrawn by Executive proclamation or otherwise, and no reserves of any character or description covering or including within its limits lands of the United States containing minerals shall be created or established except by Act of Congress.

H. R. 6646: Introduced by Mr. Welling, to cede the unreserved public lands to the several states. All unreserved public lands are ceded to states, except where they have been entered pursuant to law, and for which rights of entrymen or claimants may have been initiated. Upon relinquishment, however, the land is subject to the provisions of the act.

S. 2129: Introduced by Mr. Smoot to amend an act to provide for the repayment of certain commissions, excess payments and purchase

moneys paid under the public land laws. The bill provides that where purchase moneys and commissions paid under any public land law have been covered into the Treasury under any application to make filing, location, entry, or proof, etc., such purchase moneys and commissions shall be repaid to the person who made such application, etc., in all cases where such application, entry, or proof has been or shall be rejected, and that the applicant shall not be guilty of fraud in connection with such application. It provides that a request for repayment of purchase moneys and commissions must be made within two years from the rejection of the application.

Section 2 of the bill provides that the Secretary of the Interior, when proper proof is presented to him that any person has made payments to the United States under the Public Land Laws in excess of the amount he is lawfully required to pay under such laws, that such excess shall be repaid to him. Request for repayment must be made within two years after the patent has been issued for the land. Section 3 of the Act provides that the Commissioner of the General Land Office shall ascertain the amount of any excess moneys or commissions, in any case where repayment is authorized by this statute, and that the Secretary of Interior shall at once certify such amount to the Secretary of the Treasury, who is authorized to make repayment of the amount specified. The power of the bill is vested in the Secretary of Interior, who is authorized to make rules and regulations necessary for the carrying out of the Act.

S. 2190: Introduced by Mr. Smoot to authorize the consolidation of government lands and of privately owned lands, and for other purposes. The power of the bill is vested in the Secretary of the Interior, who is authorized in cases where privately owned lands are situated in noncontiguous bodies or areas within public domain, including reservations, or within oil, coal or other withdrawals, to exchange public lands of the United States either within or without such reservations or withdrawals, for such privately owned lands to the end and with the object that as nearly as practicable the lands in private ownership and those held by the Government shall each form single bodies. The lands so exchanged must be of approximately equal character and value, and the exchange can be made only in the event that the public interests are benefited. The land to be conveyed to the United States by any one landowner under such exchange shall be so conveyed by a single act or instrument of conveyance, and the lands to be conveyed to the private owners in exchange therefore shall be described in a single list or schedule and conveyed by a single patent.

S. 2189: Introduced by Mr. Smoot to provide for agricultural entries on coal lands in Alaska. Upon the passage of the Act, homestead claims may be initiated by actual settlers for public lands of the United States in Alaska known to contain workable coal, oil, or gas deposits, or that may be valuable for the coal, oil, or gas contained therein, and which are not otherwise

reserved or withdrawn. All such homestead claims are to be patented with the understanding that the title for the coal, oil, or gas, is vested in the United States, which has the right to prospect for, mine and remove the same. Any settler who has initiated a homestead claim in good faith, on lands containing workable deposits of coal, oil, or gas, may perfect the same under the provisions of the laws under which the claim was initiated, but he shall receive a limited patent therefor. Section 2 of the bill provides that, upon satisfactory proof of full compliance with the provisions of the laws under which the entry is made, the entryman shall be entitled to a patent to the lands entered by him, which patent shall contain a reservation to the United States of all the coal, oil, or gas in the land so patented, together with the right to prospect for, mine and remove the same. These deposits are subject to the disposal by the United States in accordance with the provisions of the laws applicable to coal, oil, or gas deposits in Alaska in force at the time of such disposal. Any person qualified to acquire coal, oil, or gas deposits, or the right to remove same, shall have the right at all times to enter upon the lands entered or patented, for the purpose of prospecting for coal, oil, or gas, upon the approval of the Secretary of the Interior of a bond or undertaking to be filed with him as security for the payment of all damages to crops and improvements on such lands by reason of such prospecting. The owner of the limited patent shall have the right to mine the coal for use on the land for domestic purposes at any time prior to the disposal of such deposits by the United States. The bill expressly provides that nothing therein shall conflict with the Soldiers Homestead Laws.

Public Lands and Soldier Settlement

H. R. 5993: Introduced by Mr. Kelly of Pennsylvania, to provide for the emergency arising out of the demobilization of soldiers, sailors, and marines, and the discharge of workers from war industries and other occupations by securing therefor permanent opportunities for profitable employment by means of a national construction service organized for the systematic extension of useful public works and the development of natural resources, and for other purposes. The bill appropriates the sum of \$100,000,000 to be expended under the direction of the President of the United States, to provide for the immediate and profitable employment on public construction and development necessary or desirable in the public interest, of soldiers, sailors or marines returned from the military or naval forces of the United States. The President of the United States is authorized to appoint a citizen to act as director of the work, to be known as the Director of Public Construction, and to furnish him with the necessary office force and equipment and to pay an annual salary of \$5,000 per year. There is also to be created an Advisory Board to be known as the National Board of Public Construction, which shall consist of the President of the United States, and the Secretaries of Labor, Agriculture, Interior, War, and the

Postmaster General. The President is given the power to make all rules and regulations for carrying out the work, including the provisions for wage standards and working conditions for labor employed in the operations authorized in the Act. Such wage standards are to be approved by the Secretary of Labor. Preference is given to returned soldiers first, to workers associated with the active conduct of the war second, and citizens generally, third. In order to secure the immediate and profitable employment of returned soldiers, sailors and other workers, the President is given power to organize a service or body of workers to be known as the United States Construction Service, which shall act under the general supervision of the Director of Public Construction, to designate the location in accordance with existing plans of the Post Office Department, of a national system of permanent post roads; to utilize the construction service for the construction, improvement and maintenance of the roads; to arrange for the transfer by the Secretary of War of such motor vehicles, camp buildings, and other war material and equipment as may be unsuitable for the purposes of the War Department, for use in the construction, improvement and maintenance of the post roads; to provide for the establishment of motor transport and postal routes; to organize a system of marketing facilities for the collection and delivery through the Postal Service and the public school buildings of food and other products from producer to consumer. These marketing facilities as soon as they are organized shall be turned over to the Post Office Department to be operated as a part of the Postal Service. The construction service is to administer all lands acquired and all buildings and other property acquired, constructed or being constructed by the Emergency Fleet Corporation and the Housing Corporation. In order to initiate a proper policy for utilizing the land and natural resources for the permanent and profitable employment of returned soldiers and other workers, the President is authorized to experiment in establishing one or more actual communities on agricultural lands, and for the purpose to provide for the efficient laying out, reclaiming, preparing, developing and organizing of such lands for community settlement, including the providing and equipping of ready-made farm buildings, and the furnishing of stock, machinery and seed; the establishment, maintenance and operation of a demonstration farm for agricultural training; the organization of cooperative buying, selling, storage, insurance, and allows the making of loans and means for the settlers' welfare. He is further authorized to experiment in organizing, within the national forests, one or more actual logging or milling operations or both, which in each case shall be based upon a continuous yield of timber or wood to the end that permanent communities of logging and mill workers be established; provide all necessary roads, flumes, and other transportation facilities, mills, buildings, and other plants, and equip and operate the same and sell the product. He is authorized to ex-

periment in developing in the public domain in the United States or Alaska, one or more coal mining enterprises, each enterprise to be so conducted as to maintain a suitably planned and organized community of workers. Investigation of possibilities and practicable and comprehensive means for the control of floods is also provided for. For the purpose of carrying out the experiments provided for, the President is authorized to reserve from entry or patent under the homestead or other laws, any portion or portions of the public domain of the United States; to purchase, or acquire by lease or by gift, any improved or unimproved land, or any right, title or interest therein, houses, buildings and parts thereof; to select settlers from the applicants for lands, and to supervise such colonies when organized; to rent or lease, upon such terms and conditions as may determine any area of land, or any houses, buildings, improvements, or parts thereof, which have been reserved, acquired, or constructed as provided in this Act. All states interested are allowed to cooperate with the President upon proper agreement. Not more than 50 per centum of the cost involved in any cooperative enterprise shall be paid from the appropriations of the Act.

S. 863: Introduced by Mr. Smoot, to provide employment and rural homes for those who have served with the military and naval forces of the United States, through the reclamation of lands to be known as the National Soldier Settlement Act. The bill provides for the reclamation of lands to be used by the honorably discharged soldiers of the Regular Army Reserve, and by former American citizens who served with and were honorably discharged from the military or naval forces of any of the nations allied against the Central Powers. The power of the bill is vested in the Secretary of the Interior who may acquire by gift or purchase, deed in trust or otherwise, the necessary lands. No lands shall be acquired unless the price be paid and the conditions under which they are acquired shall be approved by a representative of the state in which the lands are located, an appraiser designated by the Federal Farm Loan Board, and the Secretary of the Interior. The Secretary is given authority to do and perform all work necessary for the permanent reclamation and development of the lands, and shall as far as possible utilize the service of soldiers for this purpose. The Secretary shall withhold at least 10 per cent of the wages paid soldiers for work on the project to apply upon payment of the obligations of the soldiers, which amount will be returned to the soldier in case he does not purchase a farm allotment when the allotments are offered for sale. All amounts so withheld shall bear interest at the rate of 4 per cent. The Secretary is authorized to advance to soldiers up to \$1,200 for necessary improvements. Proper allowance is made for schools, churches, and community centers. Preferential right is given to the soldiers who have been employed in the development of the projects. The sale price

shall be fixed with a view to repaying the total cost of each project. Applicants are to pay 5 per cent of the purchasing price upon entering into the contract. The balance is to be paid in amortizing payments during a period not to exceed forty years. Sums advanced for improvements shall be repaid in amortizing payments extending over a period to be fixed by the Secretary not to exceed twenty years. These payments shall bear 4 per cent interest annually. Patents or deeds to project lands issued within ten years within the date of contract of sale, shall contain the condition that no transfer, assignment, mortgage, or lease shall be made valid without the approval of the Secretary. The Secretary is authorized to make short-time loans not to exceed \$800, at any one time, to soldiers to purchase the necessary live stock. Such loan shall bear 4 per cent interest. In the case where the state furnishes 25 per cent of the necessary funds, the Secretary of the Interior may authorize the state, subject to his general supervision, to carry on the subdivision of lands, improvement of farms and the aid and direction of development after settlement. The Secretary is authorized to provide for reimbursement of funds so provided by the state.

H. R. 6043: Introduced by Mr. Hastings, to provide homes for soldiers, sailors, and marines and for other purposes. All honorably discharged soldiers, sailors and marines, who have served with the forces in the war with Germany, will upon the passage of this Act be entitled to enter a tract of public land, under the provisions of the public-land laws, and shall be entitled to make said entry without payment of fees and commission as now provided by law. The Secretary of the Interior is hereby authorized to reserve the entry for a period of two years from the passage of the Act, of any part or portion of the public domain, during which time the soldiers, sailors, and marines shall have preferential right to enter. The Secretary of the Interior is further authorized to waive the time limit to residents on homesteads, as required of other settlers. The bill amends the fifth paragraph of Section 12 of the Act approved July 17, 1916, providing capital for agricultural development, etc., in that it provides that no loan shall exceed 50 per cent of the value of the land mortgaged, and 20 per cent of the value of the permanent insured improvements thereon. Loans may be made to honorably discharged soldiers, sailors, and marines, who have served in the war with Germany, to the amount equaling 100 per cent of the value of the land and permanent, insured improvements thereon. The loans shall be divided so that the first mortgage shall be taken on the land and the improvements in each case to secure the note for a first loan in an amount not to exceed 50 per cent of the value of the land mortgaged, and 20 per cent of the value of the permanent, insured improvements thereon. Such notes to be issued by the farm-loan banks as security for the farm-loan bonds. The bonds shall be non-taxable, and shall bear interest at not to exceed

41½ per cent, and be sold for not less than par value, the money to be loaned to honorably discharged soldiers, sailors and marines at the same rate as paid upon the notes secured by the first mortgages.

Interior Department

H. R. 6551: Introduced by Mr. Mays, establishing a branch of the Interior Department in the Western States and to transfer to such branch certain bureaus and offices of the Interior Department. The bill provides for the establishment at a suitable place in one of the public-land states west of the Mississippi River, a branch of the Interior Department, to which branch is to be transferred, from the District of Columbia, the offices of the Commissioner of the General Land Office, the Geological Survey, the Bureau of Mines, the Reclamation Service, Commissioner of Indian Affairs, and the National Park Service. It also provides for the repealing of the Act which transferred the forest reserves to the Department of Agriculture. \$1,000,000 is appropriated to carry out the provisions of the Act, which shall take effect immediately.

National Forests

H. R. 6542: Introduced by Mr. Mays, repealing the Act of Congress approved February 1, 1905, and transferring the National Forests from the Agricultural to the Interior Department.

Anti-trust Laws

S. 1383: Introduced by Mr. Henderson, to amend Section 4 of the Act to regulate commerce. This bill makes it unlawful for any common carrier engaged in interstate commerce to charge or receive any greater compensation in the aggregate for the transportation of passengers of the same class, or of goods, wares, merchandise or property of a like class for a shorter than a longer distance over the same line or route in the same direction, or to charge any greater compensation as a through rate than the aggregate of the intermediate rates for passengers or freight. The bill specifically states that it in no way authorizes a common carrier to charge or receive as great compensation for a shorter as for a longer distance.

Industrial Relations

H. J. Res. 121: Introduced by Mr. Kelley of Pennsylvania, authorizing the President of the United States to call a national conference for the consideration of industrial problems and the amelioration of differences between capital and labor. Under the provisions of this Act, the President is authorized and directed to call a national conference to meet at such place as may be designated by him, at an early date to also be named by him, to be composed of the following named persons to represent both employes and employers of capital and labor: E. H. Gary, William H. Johnston, Frank P. Walsh, Charles E. Hughes, A. B. Garretson, William K. Vanderbilt, Franklin K. Lane, William B. Wilson, John D. Rockefeller, Samuel Gompers, Daniel Guggen-

heim, Charles H. Moyer, J. P. Morgan, Andrew Furuseth, F. S. Peabody, Frank J. Hayes, J. Ogden Armour, J. Fitzpatrick, E. L. Stotesbury, W. D. Mahon.

Water Power

H. R. 3184: Introduced by Mr. Esch, creating a Federal Power Commission. This bill was unanimously reported from Committee, June 28. There have been a number of bills introduced upon this subject, but the Esch bill is the only one to receive serious consideration. The bill provides that the Secretaries of War, Interior and Agriculture shall comprise the Federal Power Commission. An executive secretary is provided for at a salary of \$5,000 per year. The work of the commission is taken care of by the clerical forces of the three departments. One hundred thousand dollars is appropriated for the purpose of the act.

The commission is empowered to make investigations and collect data concerning the power industry; to cooperate with various departments who shall turn over to the commission such records, papers, etc., as may be valuable to it, and detail their experts to work with the commission; to make public the information so obtained and submit to Congress a classified report of its activities.

The commission is authorized to issue licenses for the purpose of constructing, operating and maintaining water power projects. Licenses are to be issued only after a finding by the commission that it will not interfere with work already being done. Preliminary permits are authorized, to provide opportunity for applicants to secure data and perform the necessary duties pertaining to securing licenses. Upon filing an application for preliminary permit, notice of application must be given in writing to the state or municipality likely to be interested in the project, and a notice must be published for eight weeks in a daily or weekly newspaper in the county where the project is contemplated.

Rules and regulations establishing a system of accounts are provided, and a fine of \$2,000, or imprisonment, or both, is provided for violation of such rules.

Licenses are issued for a period not exceeding fifty years, and may be revoked only upon violation of the Act and altered upon mutual agreement after 90 days' public notice. Annual rental and provisions for operation are to be fixed by the commission.

Numerous provisions are provided safeguarding the Government, and the requirements of each applicant are too lengthy to be given in this space. Copies of the bill, however, will be provided interested readers upon request.

Mining on Indian Reservations

H. R. 2480: To make appropriations for the current and contingent expenses of the Bureau of Indian Affairs, and to provide for the mining of minerals on Indian Reservations. Section 26 of the bill authorizes the Secretary of the Interior, under general regulations to be fixed by

him and under such terms and conditions as he may prescribe, to lease to citizens of the United States or to any association of such persons or to any corporation organized under the laws of the United States, any part of the unallotted lands within any Indian reservations, within the states of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Washington, or Wyoming, heretofore withdrawn from entry under the mining laws, for the purpose of mining deposits of gold, silver, copper and other valuable metal-liferous minerals, which leases shall be irrevocable, except as provided in the bill. Mining claims may be located in the same manner as mining claims are located under the mining laws of the United States. The locators of such claims shall have a preference right to apply to the Secretary of the Interior for a lease, of any mining claim, and such locator who shall fail to apply for a lease within one year from the date of location shall forfeit all rights to such claim. Duplicate copies of the location notice shall be filed within sixty days with the superintendent in charge of the reservation on which the claim is located, and application for a lease under the bill may be filed with the superintendent for transmission to the Secretary of the Interior. Lands containing spring water or other bodies of water needed or used by the Indians for watering live stock, irrigation, water-power, etc., are excluded from the provisions of the bill. Leases are to be for a period of twenty years, with preferential right in the lessee to renew for successive periods upon reasonable terms to be prescribed by the Secretary of the Interior. The lessee may be permitted at any time to make written relinquishment of all rights under such a lease, and upon acceptance be released of all future obligations under the lease. Tracts of unoccupied land not to exceed 40 acres, may be leased at a rental of not less than \$1 per acre for camp sites, milling, smelting, and refining works, etc. For the privilege of mining or extracting the minerals, the lessee shall pay to the Government, for the benefit of the Indians, a royalty of not less than 5 per cent of the net value of the output of the minerals at the mine, due and payable at the end of each month succeeding that of the extraction of the minerals from the mine, and an annual rental payable at the date of such lease and annually thereafter of not less than 25 cents per acre for the first year, 50 cents for the second, third, fourth and fifth years, and not less than \$1 per acre for each and every year thereafter during the continuance of the lease, except that such rentals for any year shall be credited against the royalties as they accrue for that year. In addition to the payment of royalties and rentals, the lessee shall expend \$100 in development work. No timber shall be cut upon the reservation except for mining purposes, and then only after first obtaining a permit from the superintendent of the reservation and upon payment of the fair value thereof. The Secretary of the Interior is authorized to examine the books and accounts of the lessees and to require them to submit statements, reports, etc., regarding the cost of mining. All moneys received from royalties and rentals shall be deposited in the Treasury of the United

States to the credit of the Indians. The bill also provides that any unallotted lands may be leased to the Indians who have been declared by the Secretary of Interior as competent to manage their own affairs. The Indian Appropriation Bill, which carries these provisions for mining upon Indian Reservations passed the House on May 26, the Senate on June 6, and the Conference Report was agreed upon on June 10. The bill now will go to the President of the United States for his signature.

Department of Public Works

H. R. 6649: Introduced by Mr. Reavis, of Nebraska. This bill, prepared by the Engineering Council, provides that the Department of the Interior be changed to the Department of Public Works, and that the now Secretary of the Interior be designated as the Secretary of Public Works. When the present term of the Secretary of the Interior shall expire, all subsequent occupants shall by training and experience be qualified to administer the affairs of the department. Except as hereinafter stated, all bureaus now included under the Interior Department are transferred to the proposed Department of Public Works.

The Patent Office under the Act is transferred to the Department of Commerce; the Bureau of Pensions to the Treasury; the Bureau of Education to the Labor Department; the Bureau of Indian Affairs, and Board of Indian Commissioners, to the Labor Department, with the special proviso that all engineering and construction work, and mineral land surveys now formed by the Bureau of Indian Affairs, shall be performed under the Department of Public Works.

The Department of Public Works shall take over the Supervising Architect's office, now controlled by the Treasury Department, the Construction Division of the United States Army, River and Harbor Improvements, the Mississippi River Commission, and the California Debris Commission, now controlled by the War Department. Engineer Officers now assigned to non-military work are to be detailed for duty under the Department of Public Works, until civil transfer has been satisfactorily accomplished.

Four Assistant Secretaries of Public Works are provided for, each specially qualified for his particular work, and who can be removed only for inefficiency or legitimate cause.

Leasing

S. 1269: Introduced by Mr. Smoot, to promote the mining of coal, phosphate, oil, gas and sodium on the public domain.

This bill is similar in its provisions to the bill discussed in these columns last month, except that it provides solely for the leasing of the lands and prohibits the sale thereof.

Senator Smoot is firmly of the opinion that we must have either a leasing policy or an ownership policy, and has drawn his bill around that idea.

The bill was referred to the Committee on

Public Lands, from which it is expected to be reported at an early date.

Industrial Exposition

S. 1314: Introduced by Mr. Spencer to establish an International Exposition of the United States of America. The bill provides for the establishment of an International Exposition of the United States of America to be located in or near the District of Columbia, in the interest of the commerce, mining, industry, agriculture, labor, education, arts and science of the world. The building sites are available to any state in the United States and to any foreign nation, under such restrictions and regulations as Congress or the Board of Trustees may provide. The exposition is to be managed by a board of ten trustees, consisting of the President of the Senate, Speaker of the House of Representatives, four members of the Senate and four members of the House, appointed by the Speaker of the House, who are to hold office for terms of six years. The original appointees shall determine three of their number to hold office for the full term of six years, three to hold office for four years, and two to hold office for two years. There shall be an Advisory Board which shall consist of Governors of such States of the United States and of the representatives of each nation as may erect and maintain buildings in connection with the exposition. The power of the bill is vested in the Board of Trustees, who have full power to plan the exposition buildings, select sites, etc. \$100,000 is appropriated for the necessary expenses.

Bolshevism

S. 1720: Introduced by Mr. King, provides that any association, organization, or corporation which proposes to bring about any social, industrial, or economic change within the United States by the use of force, violence, etc., be declared an unlawful association. Section 2 of the bill provides that any person who shall act as an officer of any such unlawful association shall be punished by imprisonment for not more than ten years or by a fine of \$5,000, or both. Section 3 provides that any person who knowingly prints, publishes or circulates any book, pamphlet, paper, circular or card, etc., in which is advocated physical force, violence or injury to person or property, shall be subject to a ten-year imprisonment, or \$5,000 fine, or both. It provides that a fine of \$500 or one year in prison, or both, may be imposed upon any owner, agent, or superintendent of any building, room, or place who knowingly permits therein any meeting of such unlawful association.

Education

S. 816: Introduced by Mr. Owen to provide for public education upon political questions and for the dissemination of information upon political issues and matters of a political nature of public interest by an authorized publicity pamphlet. The bill is to be known as the Federal Publicity Pamphlet Act. It provides for two pamphlets, the first to be issued prior to the nomination of Members of Congress to be known as "Federal Publicity Pamphlet Number 1," and the second

to be issued prior to the general election to be known as the "Federal Publicity Pamphlet Number 2."

The pamphlet shall contain information concerning candidates for nomination as Senators or Representatives of the Congress of the United States, which information may be presented to the Public Printer which is to be filed not later than the fortieth day preceding the date when delegates of such convention are selected, together with his portrait or cut and reasons why he would be nominated. Such statements shall not exceed three pages for a Senator and two pages for a Representative. The bill prescribes rules and regulations about the distribution of the pamphlets, the number of pamphlets to be printed, etc.

Mining Claims

H. J. Res. 76: Introduced by Mr. Raker to suspend the requirements of annual assessment work on mining claims during the continuation of the war in which the United States is now engaged and until midnight of December 31 of the year following that in which such war is concluded. The bill provides for the suspension of the law which requires that \$100 worth of labor be performed or improvements be made during each year. The claimant in order to secure the benefit of the bill must file a notice, in the office where the location is recorded, of his desire to hold his mining claim.

H. R. 5135: Introduced by Mr. Hayden, provides that mining claims for deposits bearing gold, silver, lead, copper or other valuable minerals, occurring in disseminated bodies or deposits having no surface outcrop, shall be subject to entry in areas not to exceed 20 acres for each claim, but no exterior surface boundary of any such claim shall exceed 1,320 feet in length. The location of such claim shall be completed by erecting at each corner a substantial monument, and the posting thereon of a notice of location under the provisions of this act, and the recording such notice in the office of the county recorder within 30 days after such posting. Until patent has been issued, not less than \$100 worth of labor shall be expended or improvements made.

S. 47: Introduced by Mr. King, provides a new method of obtaining patent to a mining claim. Applicant must prepare a statement under oath showing his compliance with the terms of the act, together with a plat of the claims, showing accurately the boundaries, which must be distinctly marked by monuments on the ground. This plat, together with notice of application, must be placed in a conspicuous place on the land. Copy of the statement and plat is to be filed in the proper land office, and in a court of competent jurisdiction as and for a complaint or declaration, setting forth that he has located certain claims described in the complaint and has performed all acts necessary to entitle patent. The register of the land office, upon receiving the statement,

shall advise the Commissioner of the General Land Office, and if the lands are not open to entry, or the applicant for patent has not properly complied with the law, or for any reason the claimant is not entitled to patent, the commissioner must set up such matters as defenses by pleadings denying that the claimant is entitled to patent. The commissioner or his representative must be present at the trial.

Upon the filing of such a complaint, claimant shall publish a notice for sixty days that he is applying for patent for certain mining claims, and giving notice to all persons who may have any adverse claims to present same by answer or pleadings in such proceedings. Upon compliance with the above, the court must appoint a day for the hearing of such proceedings, at which hearing the applicant may present proof of his compliance with the law, that the land is mineral in character, and that he has made actual discovery of mineral thereon, that he has made improvements to the value of at least \$500 and any other necessary facts.

If there are adverse claims to possession, the court has the power to determine the right of possession, which is final, except that it be shown that the applicant has failed to comply with the terms of this act.

After such finding and judgment the claimant may without further notice file a certified copy of the judgment roll with the register, and pay the receiver \$5 per acre for the claim, together with proper fees, whereupon patent shall be issued.

SPEEDY IMPROVEMENT OF PYRITES SITUATION, IS PREDICTED

As a result of further curtailment in acid manufacture the demand for pyrite and sulphur is not active. Many of the large consumers still have sufficient stocks on hand to take care of their immediate needs; consequently they are not disposed to make contracts for new material, preferring to wait until conditions are more settled. The producer, therefore, is confronted by a restricted demand and finds it difficult to dispose of his product unless he happens to hold long-term contracts, providing for his entire output.

It is thought by those who have an intimate knowledge of the industry that conditions will speedily improve, and within the next two or three months there should be a brisk demand for both pyrite and sulphur.

The outlook in some of the industries that use large quantities of sulphuric acid, particularly the oil and steel industries, is encouraging.—Bureau of Mines Minerals Investigations.

On June 13, Samuel A. Taylor, a director of the American Mining Congress, was given the honorary degree of Doctor of Science at the University of Pittsburgh.

MINING DECISIONS

JURISDICTION OF STATE COURTS OVER CONTRACTS

A miner in the State of Washington contracted with a corporation, organized in the same state, for work to be done on property owned and operated by a Washington corporation in the State of Idaho. This work was to be paid for part in cash and in part from the proceeds of the mine, contrary to the statutes of the State of Washington.

The work was performed, the corporation made the cash payment specified, whereupon the miner filed suit in the State of Washington for the portion of the services for which he had agreed to accept payment from the proceeds of the mine. The Supreme Court of the State held, however, that the contract was valid, so far as the State of Idaho was concerned and that neither party could invoke the jurisdiction of the State of Washington to declare the contract void, because in violation of the Washington statute. *Hatcher v. Idaho Gold and Ruby Co.*, 159 Pacific 107.

DUE DATE FIXED FOR PAYMENTS ON OIL LEASES

The due dates for the payments of rentals due on oil leases because of delay in commencing or completing drilling contracted for have been fixed. The recent decisions hold first that when the lease provides for a rental for a stated period, if drilling is not commenced within a fixed time, then the payment or tender of the rental must be made *before* the beginning of this fixed period. Second, where rentals for delay are to be paid if drilling has not been completed then a fixed time payment or tender of such rentals may be made at any time before the expiration of the fixed time.

RELOCATION CARRIES TITLE TO IMPROVEMENTS

A Mining Company sold mill and buildings located on an unpatented mill site, held in connection with unpatented lode claims, giving to buyer the right to remove the buildings. The Mining Company did not perform the annual assessment work on its claims and a third party made a valid relocation of the ground, the boundaries of which included the mill and other buildings and improvements.

In the action which arose between the purchaser of

these buildings and the relocater of the mining claims as to who held title for the buildings and the improvements, the court decided that the original owner of the buildings (the Mining Company) lost its right to the buildings by its failure to perform its assessment work and that, upon relocation, the right of the first Mining Company was terminated and the relocater acquired the right of possession in the land and necessarily in the buildings. The court, therefore, invokes the well-known principle of the law in which a man cannot pass a better title than he possesses and the purchaser of the buildings from the Mining Company forfeited his right in the property at the time the Mining Company forfeited its right in the possession of the ground.—*Watterton v. Cruse*, 176 Pacific 870.

MINING CLAIM WATER RIGHTS

Recent decisions clarify the rights to the use of water for mining under Section 2339 of the United States Revised Statutes. A person cannot locate a mining claim, including within its limits a spring, and maintain his right as against another Mining Company which has already appropriated the waters from this spring and applied them to his own uses even though the spring was part of the public domain. So also a person residing on public land who had developed and piped the flow from a spring can maintain his right as against any other person who has no better title to the land than he himself possesses. Priority of use seems to be the rule governing these decisions.—*McKenzie v. Moore*, 176 Pacific 568.

KNOWLEDGE GIVES CONSENT

The owner of a mining property knew that a third person had relocated and was developing his property. Nevertheless he remained silent and failed to assert any right for more than two years. After the relocater had expended large amounts of money and had mined and shipped valuable ore, the original owner filed his first assertion of claim against the relocater. The court held that the original owner had, by his conduct and knowledge of the facts, abandoned the claims relocated.

JONES-REAVIS BILL PROPOSES DEPARTMENT OF PUBLIC WORKS

Far-reaching changes in the executive machinery of the federal government are proposed in bills introduced in each house of Congress on June 25. The federal Department of the Interior will become the Department of Public Works, if the legislation proposed is enacted. The main idea is to assemble all engineering activities of the Government in one department.

Such bureaus of the Interior Department as are non-engineering in character are to be placed under the jurisdiction of appropriate departments, while engineering bureaus from other departments are to be included in the Department of Public Works. The bill proposes that the Patent Office is to be removed from the Interior Department and placed under the Department of Commerce. The Bureau of Pensions is assigned to the Department of the Treasury. The Bureau of Education goes to the Labor Department. The Bureau of Indian Affairs also is transferred to the Department of Labor, with the proviso that the engineering and construction work and the land and mineral surveys now performed under the direction of the Bureau of Indian Affairs are to be prosecuted under the Department of Public Works. St. Elizabeth's Hospital and the Freedman's Hospital in this city are assigned to the Treasury Department. Columbia Institution for the Deaf and the Howard University go to the Bureau of Education, under the provisions of the bill.

On the other hand, the Department of Public Works is slated to absorb the Supervising Architect's Office of the Treasury Department; the Construction Division, River and Harbor Improvements, Mississippi River Commission, and California Debris Commission of the War Department; the Bureau of Standards and the Coast and Geodetic Survey of the Department of Commerce; the Bureau of Public Roads and the Forest Service of the Department of Agriculture.

The bill provides that the Secretary of Public Works "shall by training and experience be qualified to administer the affairs of the department and to evaluate the technical principles and operations involved in the work thereof." The measure excepts from the foregoing provision the cabinet officer who is at the head of the department at the time of the passage of the bill.

Four assistant secretaries, each to be paid \$7,500 per annum, are provided and their duties outlined. One assistant secretary is to have administrative jurisdiction over all matters of engineering design and construction. Another is to have charge of architectural design and construction. The third is to have jurisdiction over all scientific work and surveys, while the fourth assistant secretary is to be in immediate charge of all land and legal matters. The assistant secretaries are charged with the duty of coordinating and bringing into efficient relationship all the activities of the department

so that it may be harmoniously and efficiently administered.

An important feature of the bill is the proviso that engineer officers of the U. S. Army detailed on non-military work are to be assigned by the Secretary of War to like duties under the new department, for not over two years. This enables the Secretary of Public Works, it is said, to make gradual transfer of improvements and instrumentalities to civil administration without detriment to public interest. Members of the Corps of Engineers may, under the direction of the Secretary of Public Works, be detailed by the Secretary of War to temporary duty in the new department for such instruction, training and experience as is desired.

High-Speed Steel

Roy C. McKenna, of Pittsburgh, is the author of the following interesting statement, made to the Ways and Means Committee:

"That penknife contains probably the best grade of carbon tool steel that a manufacturer can make, which would sell at about 23 cents a pound. If that were heated over a blaze of a match it would lose its temper and would not cut wood. High-speed steel gets its value from the fact that tungsten imparts the property to it of maintaining its hardness at red heat. I have actually seen lathes which had a voltmeter showing 60 horsepower imparted to the lathe. All that power, excepting that used by the belts and in the friction, had to be radiated as heat from the point of that tool. The value of high-speed steel is absolutely due to the fact that tungsten alone, of all the minerals known in the world, gives that property to steel. A workman could light his cigar, if he had a cigar to light, from the point of a tool while it is working.

In the plant that is affiliated with ours, working on 6-inch British shells, we have removed, by drilling, 51½ pounds of metal in 20 minutes, or over 2½ pounds a minute. Secretary Lane, I think it was in December, 1915, in the National Geographical Magazine, stated that with high-speed steel one man and one lathe could do the work of five men and five lathes. It may be interesting for you to know that back in 1904 or in 1905 the first high-speed drill was made. The drill was tested by the plant of the Carnegie Steel Co. on armor plate, and the result showed that the operator drilled 17 holes to 1 against the old carbon steel. Secretary Lane's estimate of five men and five lathes is conservative.

Galvanizers Have Little Spelter

It is reported that the spelter stocks in the hands of galvanizers are low, but no immediate relief may be expected from this quarter until the steel situation improves. The brass industry reports little business and though the manufacturers have small stocks of spelter they seem well supplied with scrap brass.—Bureau of Mines Minerals Investigations.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

WANTED A CLOSED SHOP

Ten thousand employes of the McCormick Reaper Company, in Chicago, wanted a closed shop, \$1 an hour, and forty-four hours per week. They now have the "closed shop," and the company states that it is closed indefinitely.

WE THINK NOT

IF Andrew Carnegie had spent his time trying to shorten his hours of labor and lower his net production, would he be Andrew Carnegie—steel magnate?

War should break out tomorrow would the men who invested their fortunes to furnish war minerals for the Government, under stimulus of government pleas for help, do it again without written contracts?

We could trade governments with blood-soaked Russia, would we?

Congress should really do something toward forcing profiteering to cease, would prices continue to soar?

DESERVED PROMOTIONS

The appointment of Dr. F. G. Cottrell to be Assistant Director of the Bureau of Mines, to succeed H. Foster Bain, is a well-earned and acceptable promotion of a man whose peculiar fitness is widely appreciated. Mr. Bain's retirement several weeks ago to resume private professional business sacrificed during the war took from Director Manning a very able associate. The succession of Dr. Cottrell will place at Dr. Mannings' council table a man whose scientific training will count for future growth of the technical work of the bureau.

The experiments which developed the Cottrell Process, by which the hitherto noxious and destructive gases of smelters and reduction plants are made to yield large profits by the extraction of arsenic, potash and other commercial products, have made Dr. Cottrell an international character. He has accomplished much else, however, as a scientist, and because of these accomplishments Director Manning has given him direct charge of all technological and investigative work.

Mr. F. J. Bailey, who has long been the chief clerk in the executive department, has been promoted as Assistant to the Director, and as such will have charge of the organization and executive work in the Bureau. Mr. Bailey has also earned this recognition of his excellent qualities as an executive and worker.

A LIVE ONE

One of the most interesting publications to reach the editor's desk was the annual issue of the Arizona Mining Journal edited by Robert A. Watkins at Phoenix. A half dozen or more of the special articles were worth careful reading by all mining men, and the pity is that the circulation of this live little magazine is circumscribed by its geographically local name. Of these articles we especially mention: "A Road to Promotion," which is an interesting description of the work and accomplishments of the "Miners' School" conducted by the Phelps-Dodge Corporation for education of operatives and foremen into efficiency and safety in the technical operation of copper mines, "Mechanical Ventilation of Metal Mines," by Charles A. Mitke, "Theory

and Practice of Industrial Relationships," by H. T. Waller and Charles F. Willis, in which each writer brings out invaluable suggestions for both employer and employe on cooperative service; and "The Cycle Theory" of the Production and price of copper, by Thomas O. McGrath. The article by Messrs Waller and Willis especially should be read by every man who owns, operates or works in or in connection with a mine of any sort.

CALIFORNIA REORGANIZED

As a result of the conference between the officers of the California Chapter of the American Mining Congress and the California Metal Producers Association some time ago, it was decided to combine the work of these two state organizations under the corporate title, "The California Metal and Mineral Producers Association."

A meeting has just been held in the offices of the California Metal Producers Association in San Francisco, at which, by unanimous referendum vote of membership in both organizations, an agreement was made upon the coalition. Articles of the Association were adopted by which the new organization becomes a Chapter of the American Mining Congress, and by the combination of the forces the California division of the American Mining Congress reaches out into every mining camp and community in the state.

The objects of the Association, as stated in the articles adopted, are interesting and far-reaching, and it is assumed that, as California has no State Chamber of Commerce, the California Metal and Mineral Producers Association will assume that important function for the State of California. These objects are stated in the following language:

ARTICLE II

The purpose of this Association is to subserve, promote and protect the interests of those engaged in mining for, or the production of mineral products in this state, and in that behalf to secure betterments in all branches of the industry; also to promote the health, safety and welfare of miners and employes engaged therein as owners, operators and employes; and of co-operating with the American Mining Congress in

similar work throughout the United States to assist in bringing about more perfect cooperation between the Government of the United States and the development of the mineral industries; to encourage education in practical and scientific mining and metallurgy and the disseminating of scientific information in relation to mining, metallurgy and allied industries; to promote a more cooperative tendency in the evolution of mining, manufacturing, transportation and commerce.

COAL WASTE UNDER LEASING

Professor H. Couriot, noted economist of France, has published a communication showing that in England, where a coal-leasing royalty arrangement exists by law, there is a scandalous waste of coal in the mines under royalties, based upon the claim of the operators that the small coal so wasted is not worth paying royalty upon. He says that this system is merely legalized robbery of the coal deposits by taking the cream and leaving an enormous amount of waste in the pits. He warns the French government against the proposed system of nationalization, as urged by the French miners before the Chamber of Deputies, and reports that in the German-owned coal mines of the Saar but 109 tons per hectare (about two and one-half acres) were raised annually, whereas at Lens the French raised 558 tons per hectare, and at St. Etienne the French raised 821 tons. The fields are equal in richness and therefore may legitimately be compared. Reports show that the state-employed miner of Germany produces from one-eighth to one-fifth of that produced by the privately employed French miner.

The new French bill proposes to limit the duration of leasing concessions under royalty to a period of from fifty to ninety-nine years, and to increase the royalties to be collected by the states.

A SURE ROAD TO NATIONAL BANKRUPTCY

Under government order the price of English coal has been advanced six shillings per ton, and the profit to the coal producer fixed at one shilling and two pence. The new price has been based upon the increased standard wage of the miners of England and the reduced

production per day owing to the shortened work day. "Obviously," admitted Sir Auckland Geddes, minister of reconstruction in the House of Commons, "manufacturing and export business will be seriously hampered by this increased price." He hoped, however, that the new price would help to meet the new cost of production due to labor.

The government drew forth a storm of protest, first from the industrial consumers of coal, who said that they would be ruined, and second—and probably a reflex protest—from the miners in certain districts who claimed that the government was endeavoring by subterfuge to create opposition to the labor demands for nationalization of British coal mines.

The increase was, however, after a reasonable delay, made effective, and the miners, in order to force early action on nationalization, have gone on a strike, even calling out the pumpers from the majority of the mines and ruining countless millions of dollars worth of mining property. The government is endeavoring to save some of the property by the utilization of army and navy forces. But it will be many years before the coal industry of England, whether nationalized or remaining under individual control, will recover from the losses caused by the irresponsible actions of the striking union men who refused even to listen to the good advice of cool-headed leaders.

The British government apparently intended to give the people of England an object lesson as to what would be the result of the establishment of permanent higher wages, shortened hours and the nationalization of British industry. It intended to prove that wages cannot be increased beyond a reasonable cost per ton of production unless the difference is taken up by the consuming public. The increase was not made until after careful consideration had been given by the National Committee, headed by Sir John Sankey.

A very significant statement was made by Sir Eric Geddes, a brother of Sir Auckland Geddes, who said: "The surest way to national bankruptcy is to go on subsidizing services. Each service must stand on its own legs." He also pointed

out that as a result of English control of railroads the British are now paying an increase of 50 per cent for passenger fares, and insists that the complete nationalization of the roads will mean the same sort of increase for the transportation of freight, which burden must in turn be borne by industry.

The British financiers and economists are now very earnestly studying to find the end of the seemingly endless chain of advancing costs, and in the meantime the union laborites are trying to force the issue to a quick conclusion.

THE WAR MINERALS SITUATION

The original War Minerals Bill passed the House April 30, 1918, and passed the Senate, September 11. The changes made in the Senate were adopted in the House, September 25. This bill was approved by the President, October 5, but because of differences of opinion as to whether the bill should be administered by the Interior Department or the War Industries Board no selection was made until the morning of the day on which the armistice was signed. Even then the appointment of Secretary Lane was not made public until a week thereafter. This bill appropriated \$50,000,000 for the development of more than twenty minerals, absolutely vital to the industries of the nation on a war-time basis. The powers given the President and the Government under this bill were drastic to the point of being confiscatory. Members of different bureaus gave wide publicity to the provisions of this bill long before it passed the House, using it as a basis for encouraging mineral production. The statement was officially made in July, 1918, that the War Industries Board had the power to confiscate mines and equipment if necessary. Production on a mammoth scale was begun under such stimulus. The Government got the minerals it wanted, but at the cost of many millions of dollars to the miners of the United States. Congress recognized the Government's keen obligation to these miners by adding the War Minerals Amendment to the Debt Bill, which was passed in February, 1919.

These losses all occurred prior to November, 1918. It is now August, 1919. Nearly a year has elapsed since these losses were incurred; six months have elapsed since the bill was passed appropriating \$8,500,000 to the relief of these distressed miners. Not one acceptable award has been made by the War Minerals Relief Commission, and not one cent of money has been paid out by the Commission except for its own expenses.

Is this discharging the Government's obligation in the manner in which Congress intended it to be done?

If the situation of the nation in regard to minerals essential for war purposes was dangerous during the war, and every department of the Government recognized this danger, the situation under present circumstances, in the event of another war, is many times more dangerous. During the war and during the period of our extreme danger, because the Government exerted every possible influence to get such deposits opened up, we were beginning to get to a position where we could have been comparatively self-sustaining. But will the people who invested money in such projects do so again in a similar emergency? The answer is, emphatically, No!

If we should be at war tomorrow you could not find one mine operator in America simple enough to invest a dollar in so-called war minerals. These mineral industries must have a form of protection large enough to preserve our national security. Either they must be protected by a tariff sufficient to let them develop normally in peace times or the Government must take over these deposits and hold them as military and naval reserves.

Their operation must be kept to a point where they will be efficient in time of emergency and the product stored, or the present owners must have enough protection to enable them to conduct a normal business. Which policy is the truest expression of our national ideals?

DELAYED RELIEF TO WAR MINERALS CLAIMANTS

No other one industry entering into the progress of the war was of such vital

importance as the production of War Minerals.

The people who got protection on war contracts and who supplied munitions for war purposes were not these producers of raw materials, but the fabricators. Their investments, though much less hazardous, were amortized, and their contracts were settled on a basis of material on hand and contracted for plus a per centum for loss of anticipated profit.

The farmers of the country are today paid billions of dollars for their wheat crop for 1919, a large part of which was not even planted until after the armistice was signed.

A correspondent illustrates the attitude of the Government toward war mineral relief claimants in the following amusing manner:

We will suppose that you are going home some dark night up a dangerous street and you hear loud cries for help. You rush over and, with the other people that have gathered, drive off the robbers who have set upon their unfortunate victim. When the danger is over, the dust is settled, and the air is cleared, the victim rises to his feet, dusts his clothes carefully, adjusts his eyeglasses and says: "Mercy! What a mixed crowd! How did you all happen to get here? Did I write you a letter prior to November 16, 1918, and subsequent to April 6, 1917, asking you to rescue me from these particular robbers at 11.45 on Saturday night on the corner of First and Main Streets. If so, and if you can produce copies of such letter, and I can verify same in my files, I will pay your doctor's bills, providing you have been injured sufficiently to justify you in calling a physician and you can prove that you have been so injured. Your name and address, please. Ah! thank you! I shall be on my way. However, do not expect me to consider this matter for a year or more, as I am really a very busy man, now that I have escaped from these robbers."

PLEASANT COMMENT

One of the many letters received in reply to a recent bulletin of this office, asking advice of its members, contains the following statement from the president of one of the largest California mining companies, which brings delight to this office:

We might make our story short, by telling you that we watch the working of the American Mining Congress, and we stand solidly behind

them with our support, for in most things we agree with their views, and possibly if we had all of the information in their hands, we would agree with them in the things that we have not agreed with them on in the past.

We particularly appreciate the charitable attitude expressed in the statement that had the writer been possessed of the same information he would have probably agreed with us upon those matters, which, lacking that information, he did not approve. Possibly, upon the other hand, if this office had available the information of the writer, it might have taken a different position.

This letter furnishes an excuse to say to those who are interested in the work of the American Mining Congress, that our conclusions are as broadly impersonal as it is humanly possible to make them, that continuous effort is made to secure the judgment of as many leaders in the mining industry as it is possible to obtain upon every new question and to make the consensus of opinion, if based upon facts, the rule of this office. While we appreciate very greatly the letters of commendation, we are equally grateful for, and always gladly profit by, constructive criticism from any and every source. We fully appreciate the difficulty in serving interests more or less conflicting to the satisfaction of all, and we ask credit for the exercise of the best judgment of our official staff in reaching conclusions which will serve the best interests of the mining industry as a whole.

GOOD BUSINESS

The parable of the Foolish Virgins may apply to both industrial and domestic users of coal during the coming winter. For several weeks the National Coal Association has been appealing to coal consumers to place orders for immediate delivery and to protect themselves against famine conditions in the fall and winter.

There are reasons for this campaign. It is good business for all mining men to cooperate in the stabilization of every phase of the industry, therefore it should be considered good business to enter the market *now* for the year's coal, to adjure friends to do the same and encourage

business associates and employes to lay in the winter coal while transportation is possible, orders are needed and men available.

There are some who do not take the coal producers seriously in their campaign for an immediate market, but it will perhaps appear serious when ships are available to allow the export trade full swing, when the operatives receive added remuneration and the market opens, as is expected, after Labor Day. Then will come the cry for more coal than can be mined or hauled over the rails, and the railroad situation will not be relieved by the contest of the grain producers for cars.

The appalling shortage of cars through financial inability of the railroads to keep up repairs or replace lost stock, added to the growing claims of the export trade for rail tonnage, will be another element which will serve to make this adverse combination hard to beat.

OBJECT TO FEDERALISM

Under the \$400,000 appropriation contained in the Sundry Civil Bill and with the cooperation of welfare organizations, Chambers of Commerce and various church organizations throughout the country, the Director-General of the United States Employment Service is continuing the two hundred and sixty-four employment offices which have been scattered throughout the several states, largely devoting their energy to placing returning soldiers in lucrative positions.

The Congressional appropriation would have cut the number of employment office to sixty, according to the Director, but the combined philanthropic interests of the country have made possible the maintenance of the remaining two hundred.

Secretary Wilson, of the Department of Labor, and the various administration officers are confidently back of the Kenyon Nolan bill which proposes to appropriate \$4,000,000 for the establishment of a permanent employment service. It is proposed to perpetuate the machinery brought about by the war requirements through which it was necessary to revolutionize the handling of labor in the

country, in order to equip war plants quickly to full man power.

The committees of Education and Labor in both Houses of Congress are facing a peculiar situation, in that many of the employers of labor, large and small, are presenting strong arguments against the continuance of the federal service which—because of the power invested in it as a war measure—treated the employers of labor, both in the manufacturing and mining districts of the country, with utter disregard, reducing the man-power of some of the states and districts to a minimum. Industry was crippled far beyond what appeared to be necessary, even in so grave a crisis.

It is generally recognized that federal cooperation with the states in the placing of labor, either skilled or unskilled, would, if kept within proper bounds, be a valued service and at times very helpful. But the objections to the Kenyon-Nolan bill are based upon what appears to be well-grounded fear that the establishment of official control of the allocation and placement of manpower would be a very dangerous step in the present-day tendency to the federalization of labor.

The business men of the country have not forgotten the fiasco resulting from the appointment of the Federal Industrial Commission of which Frank P. Walsh was named chairman.

Politicians are sometimes afflicted with short memory and near-sightedness, but the business men who had to meet arbitrary methods during the active months of war will be slow to forget how thorough a job was accomplished under the so-called "system of priority" as adopted by the Administration. And they take it that, while such methods may have been in part called for during war, they do not intend—if possible to avoid it—to allow labor to be continually under the domination of a federal organization paid for by themselves. They hold, and rightly, that such a bureau may easily, and by the slightest mismanagement, become a weapon in the hands of leaders who would fail to give due consideration to those who handle the pay checks, through which all labor is made possible.

There appears to be no objection to the maintenance, in the Department of Labor, of a consulting employment director, but there appears no reason why millions of dollars should be spent annually from the Treasury of the United States to maintain a federal organization which is plainly a political control of the labor situation.

The Department of Labor, in the face of the self-admitted fact that it is a representative of the American Federation of Labor in the Government of the United States, has accomplished much good work. It has not always been above criticism, but is entitled to much credit for the compilation of statistics, and other valuable data. It has also played an active part, especially during the past few months, in backing up the excellent work of the Federation of Labor which—selfishly or unselfishly—has been fighting against disorganizational preachments of the I. W. W., Russian Bolsheviks and the "One Big Union" advocates.

To attempt to cure the labor situation in the United States by placing all employment directly under the eye of the American Federation of Labor through the Department of Labor would be like attempting to save the life of a neurotic patient by inserting iron bars in his veins.

KEEPING AGREEMENTS

A few days ago Boston returned to two forms of transportation—pedal or natural, and autal—the modern substitute for legs. The reason for this is a general "tie-up" of both elevated and surface cars. Now this has little to do with mining except that Boston, being one of our greatest mining camps, is feeling a touch of kinship for some other districts which have suffered from a failure of labor unions to recognize a contract.

The wage increases on the Boston Elevated during the past year have reached \$4,000,000.00. The men wanted \$6,250,000.00 more under a wage increase. They placed their case in the hands of the National War Labor Board, June 24, and agreed to await an award. The management showed that the payment of this \$10,000,000.00 total increase to

the men meant 70 per cent of the total revenue, or seven cents out of each ten-cent fare; that already the ten-cent fare had reduced the company revenue 20 per cent; that any increase to the fare would kill off more business, and that the loss from operation would run \$5,000,000.00 a year if the demands of the men are granted.

The men disregarded their agreement to abide by the War Labor Board and left Boston without transportation. In summing up the situation the Boston News Bureau says:

It has been said that the Kaiser watched for so long the growth of the mighty German army that he became positively obsessed with the idea of trying out its strength. The act of the Boston car men suggests a similar form of dementia. . . . Such is the merry irresponsibility of labor.

DEVELOPMENT IN CALIFORNIA

The State Mining Bureau of California, under the direction of Fletcher Hamilton, has taken up a most commendable and constructive plan of work in behalf of large mineral production for that state. Mr. Hamilton realizes that, under the conditions now existing, there is a very great necessity for stimulation of the mining industry to take up the slack occurring in the transition from war to peace conditions. He is therefore organizing a state-wide development investigation. Reports will be published of the resources in the various districts and will be at the disposal of the owners and operators of the properties. In addition, the district men are to render personal assistance wherever the mining operators need special encouragement.

Mr. Hamilton is a young man with a clear vision of the possibilities of California, who knows that, while his state has long been the leading producer of war minerals and is one of the leaders in furnishing the oil supply of America, the surface has scarcely been scratched in many places, and that the California mountains contain untold millions in hidden resources which it is the business of his department to develop.

PRICE THE GREAT PROBLEM

THE MINING CONGRESS JOURNAL is not pessimistic. It cherishes a sublime and certain faith in the future, based upon a sure belief in the ultimate common-sense of an educated people. It hopes, almost against hope, that the problems of readjustment may find solution through intelligent and practical foresight rather than through the crushing logic of financial panic or industrial revolution.

What is the great problem? The adjustment of prices. Wages, the price paid for service, must provide a decent living for the workman, and the service paid for must do its part in providing supplies at a price which consumers generally can afford to pay. The more efficient that service, the cheaper its product to consumers, who in turn may sell their products to this workman at a less price and thus make more adequate his wage.

With all productive capacity of the nation fully and efficiently employed, a level of supply and demand would be created which would quickly and certainly reduce prices and make entirely adequate a medium wage scale. With our productive capacity working short hours and without the benefit of that executive management necessary to efficiency, an under supply will just as certainly increase prices and make even a very high wage inadequate. Organized labor's plan to demand a six-hour day is suicidal to the cause of labor. Its talk of a partnership in the management of business is suicidal to the cause of labor, not because the workman is not entitled to consideration for the performance of his part of the contract, but because success depends upon perfect operation of all departments. An unusually well-manned factory or mine may fail—that is, competent production at maximum speed and efficiency may be nullified by incompetent business management.

A fair day's work intelligently directed is necessary to create permanently a fair day's pay with an adequate purchasing power. A fair day's work cannot be accomplished in six hours, and eight hours' service will not be adequate except under the unquestioned direction

of an executive unhampered by the claim that the workman is a partner in the business enterprise.

The wage-earner is entitled to a wage which will permit a frugal, industrious man to live decently, educate his children and lay aside during his working years enough to provide a living during his old age. Price must reach a level, fair in its relation to wages, fair in its relation to consumers, and fair to capital. To reach this level as quickly as may be after the vacuum created by the waste of world war has been replenished is a great problem. Its solution lies in increased production. The greater the production the sooner this shortage will be filled and the sooner normal conditions will prevail. Not pre-war normal conditions, but post-war normal conditions which will approximate pre-war conditions but based on higher price levels.

THE DUTY OF LABOR

If men would work as hard for production as for war, the world's economic development would be advanced more than in a preceding generation, and the war's wastes would be made good sooner than anybody expected.

In this terse manner the editor of the *New York Times* suggests to labor its opportunity in solving the post-war problems now facing the industrial world. "Speaking generally," continues the editor, "the world's best, if not sole hope for relief from post-war troubles rivaling pre-war troubles, has been that workers everywhere should maintain the increased production which war showed to be practicable."

He speaks of the sabotage practiced by the British coal strikers who have, as far as possible, flooded the mines which gave them their very bread and butter, and in connection with this destructive spirit he calls attention to the exhortations of labor leaders everywhere that "labor is qualified to act as a partner with capital in the production of goods and services of universal interest."

He then calls attention to well-known incidents, indicating that strike activities have been so timed and located as to create the most danger to property and inconvenience to the public. And he

shows that not only have the British coal miners cut off their own source of wage supply but are cutting off the income of thousands of others—willing workers—whose labor automatically ceases through failure of the coal supply.

THE MINING CONGRESS JOURNAL hopes that the labor leaders of the United States will devote a little time to a study of the business as well as the theoretical end of the wage problem and predicts that such a study would radically change the attitude of the average labor radical through a simple process of mathematical calculation.

TRYING TO PREVENT NATIONAL COAL FAMINE

Congressman George Huddleston is from Alabama, he knows a lot about colored gentlemen who hibernate in fuel piles, and he ought to know a lot about coal.

During the past few weeks the National Coal Association which has a large membership list in the Congressman's home town has been conducting a nation-wide campaign to prevent, if possible, a national coal famine when the fall and winter consumption begins. Incidentally it has been trying to so adjust buying and delivery of coal that several thousand bituminous coal miners can remain at work and the public be protected from higher prices. And now comes the following record from the proceedings of Congress:

"In the House of Representatives July 19, 1919, Mr. Huddleston submitted," etc., the preamble reading as follows:

Whereas there has been a great decrease in the production of coal in the United States for the elapsed part of the current year as compared with the same portion of last year; and

Whereas there has been a lowering of the cost of production of coal since November 11, 1918, yet prices are being maintained generally throughout the United States at the maximum prices fixed by the Fuel Administration, and in some sections prices have been increased beyond such maximum prices; and

Whereas an organized propaganda is being carried on with the obvious purpose of frightening consumers into the purchase of coal at present prices under the threat of a coal shortage and higher prices, such propaganda including repre-

sentations of a shortage in labor, shortage in transportation facilities, and increased cost of production: Therefore be it resolved—

And after thus resolving, it directs that a committee of five shall ascertain and report to Congress the origin, methods, and financing the coal-selling propaganda, whether present high prices are justifiable and due to combinations of producers or dealers and, if there is found to be a shortage of coal, it is due to understandings between producers. If a real danger exists, the committee is asked to suggest remedial legislation.

The American Mining Congress undertook to analyze the coal situation from an unbiased viewpoint. It publishes the following statement to its members:

A large percentage of industrial fuel users are treating lightly the warnings of the National Coal Association that industrial consumers of power coal are facing a shortage in supply when the peak of the coal movement arrives. For the guidance of our members we wish to place the following analysis before them and to urge that every one cooperate to urge quick development for early delivery of all needed fuel. Possibly some statements made in the campaign to build the market have been overdrawn, but a consideration of the combined elements controlling the situation leads to the conclusion that the most complete cooperation between buyers, railroads and producers will be necessary to meet market requirements. We submit the following facts upon which the conclusion is based:

Anthracite producers are meeting fine response and every ton is sold as fast as produced. Domestic fuel orders, in the east especially, are well balanced.

Industrial consumers were led to over-buy under stimulus of the Fuel Administration propaganda and at a war-time price. Thousands thus over-supplied are using coal on hand and withholding orders for possible price decline. Logically every element points to continued established price or higher level. Coal mines can only produce when transportation is available. The "rush" for coal cars will come in the early fall about the time that the wheat crop begins to move. The task of moving these two commodities is, in normal years, enormous, and this year, with car shortage in sight, Europe crying for food and a stiff wheat price forcing every bushel into market, there will be a "jam" everywhere.

Because of lack of order, coal men have been unable to estimate to the Railroad Administration the probable movement, hence Director Hines has been unable to make plans, but 4,000 extra locomotives have been put in condition and held in reserve. More new locomotives have been delivered since January 1 last than were delivered all last year. Twenty-five new engines were delivered last week. Statements

estimating the number of coal cars unfit for service at 400,000 with 150,000 of these un-serviceable on one line alone (the Pennsylvania Railroad) seem not to be borne out by railroad figures, but 9 per cent, or fully 90,000 of the open-tops, are either out of commission or in shops. There has been costly delay in making repairs and in replacing worn-out rolling stock, many railroads refusing to meet the repair bills and holding the Administration responsible. Mr. Hines has solved the situation by taking responsibility, and today every available repair man is at work, all shops are working full time, and 5,000 Pennsylvania cars are in outside shops under contract.

The enormous advance in cost of building new cars (50,000 box, 25,000 gondolas and 25,000 other open-tops) led to refusal of many companies to accept the new cars at the War-contract price, and Director Hines is appointing a trustee to place the new cars in service, control their movement and settle the price later.

Another element which will control is labor. Even if the wage increase is avoided—and many producers expect the increase—a coal miner can only produce so many pounds per day. He can only be multiplied to the mine capacity, and unless the cars can be moved—empties in and loaded out—the mine cannot produce to capacity. If the wage increase comes, hundreds of "high cost" properties may be forced to close down, thus lessening the supply.

There are no sensational disclosures coming, as has been promised, to show direct incompetency, but a state of war could hardly produce a more effective block to normal movement of fuel.

Members will do well to protect themselves and warn their friends.

TARIFF FOR TUNGSTEN

Chairman Fordney of the Committee on Ways and Means decided to segregate tungsten from the various war minerals for which a tariff had been requested. The tungsten committee of The American Mining Congress, under the personal direction of J. H. Holmes, Jr., of Colorado, had prepared and presented a complete case before the committee and a favorable report was ordered, requesting the establishment of a tariff of \$10 per unit on 60 per cent concentrate and \$1 per pound of tungsten content in manufactured products.

The report was prepared and presented to the House, July 29, by Congressman Charles B. Timberlake of Colorado, author of the measure. Mr. Timberlake's accompanying statement was one of the most concise, convincing and complete briefs yet presented in behalf of mining and evidenced great care

in preparation. The fact that the United States Tariff Commission both in its reports and unofficial elaboration of statistics endorsed the tariff asked was a strong card in behalf of the tungsten men.

A "QUIET REVOLUTION"

A writer in the New York Sun characterized the Winnipeg strike as "in intent a revolution." He shows that organizers of this strike made possible a complete mastery of the local situation through taking out of the government's hands its own weapon—the authority of the military to quiet violence and public disturbance.

The government in Winnipeg was only allowed to act in case of violence, and the leaders of the Winnipeg revolutionary movement were sufficiently far-sighted to see to it that there was no violence beyond the tearing of some emblem from the lapel of someone's coat or slight personal combats in which small groups only participated. The strikers merely effectively and quietly took possession of the seat of Winnipeg Government, saw to it that nothing in the way of industrial or public service moved without a permission from the committee, and even secured the cooperation of the police, fire and post office employes.

When this so-called strike committee—which in Russia would have been called a soviet government—felt like it, bread and milk and other food, and sometimes mail, were distributed by volunteers; when it did not feel like it, there was no distribution. In the hotels women and children were served with food, supposedly because the strike leaders had not yet reached the condition of brutality which has characterized the Russian movement, but the banks closed their doors because there was no business. The mail did not move because there was, seemingly, no one to move it.

The government, unlike the Government of the United States, allowed its hands to be tied behind its back. Even Calgary, hundreds of miles west of Winnipeg was partially affected in a similar way.

The result of the Winnipeg experience

will be that the Parliament of Canada will probably pass most drastic laws by which they can prevent a repetition of such an unusual and strange display of weakness in government control.

AID TO GOLD MINING

Important and unusually rapid changes in the monetary problems facing the nation, the question of maintaining the gold reserve and protection of America's control of the silver balances and prices has led the American Mining Congress to take an active part in the fight for both the yellow and white metals.

Mr. Harold N. Lawrie, chairman of the Board of the Oregon Bureau of Mines and Geology, nationally notable as a student of economics and whose writings have attracted attention throughout the world, has accepted the active chairmanship of the Division of Precious and Rare Metals in the Mining Congress and is to devote his time to the new work. Mr. Lawrie has already held conferences with government officials in Washington and with groups of gold and silver producers and leading bankers in New York.

The fact that the cost of labor, supplies, smelting, transportation and executive management of properties has advanced to a point where only high grade gold producing mines can operate profitably, spells annihilation to all except the very few "high-grade" gold mines.

"Something must be done for gold!"

This is not an unusual exclamation, but no one has the answer. Theorizing must be at an end. Action, and prompt at that, is the only salvation for an industry in which millions of American dollars are at stake and upon which the gold reserve of the world rests.

The secretary of the American Mining Congress has long believed that the problem could be worked out without disturbing the finances of the country. His success in securing, as an active co-worker at this time, a man whom the financial interests of the nation hold in high regard, has renewed the optimism of many gold producers and they are helping to organize the special work in behalf of precious and rare metals.

HIGH TARIFF FOR TUNGSTEN APPROVED BY COMMITTEE

The Committee on Ways and Means has reported out, without amendment, Representative Timberlake's bill providing a high tariff for tungsten. The bill provides:

"That on and after the day following the passage of this act there shall be levied, collected, and paid upon the articles named herein, when imported from any foreign country into the United States or into any of its possessions, the rates of duties which are herein prescribed, namely:

First. Crude tungsten, ores, and concentrates, \$10 per unit of tungsten trioxide therein contained, a unit being herein defined as 1 per centum of tungstic trioxide in a short ton of two thousand pounds.

Second. Metallic tungsten, tungsten powder, ferrotungsten (lump and pulverized), ferrotungsten powder, commercial tungstic acid, calcium tungstate, sodium tungstate, and all other salts of tungsten and other manufactured materials containing tungsten, including high-speed tungsten steel, all alloy steels containing tungsten, and all other compounds containing tungsten not specifically provided for in this section, \$1 per pound of tungsten contained therein.

TURNING OF LANE SEEN BY GRAPHITE INDUSTRY

Business conditions in those industries which absorb most of the graphite used—steel and non-ferrous melting—are more hopeful. Indeed the turning of the lane is visible to some important manufacturers, but there is little or no inclination towards predicting just when there will be an influx of business. This, hopeful attitude has not made itself actually felt as yet in any serious demand for graphite crucibles, with the result that the crucible industry is in much the same position today that it has been for the last four months. The recent strike in the Connecticut Valley has not helped to increase the demand for crucibles. There is little or no demand for graphite of crucible grade, foreign or domestic, and the result is that few miners have attempted to keep up production.

In Alabama not over half a dozen plants are now producing graphite. In Texas, the single operating company has about completed extensive alterations and it is now about ready to produce refined graphite of various grades. In other flake graphite districts, production has practically ceased, except for some production in New York and Montana.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Has Ambitious Program

The Bethlehem Steel Co. announces a large program for development of mining iron ore in South America, particularly in Chile, and that 20 cargo ships, with a carrying capacity of 20,000 tons each, were being built to transport Chilean ore to the United States.

TIN CONSUMERS SLOW TO PLACE THEIR ORDERS

Now that restrictions have been removed and a free market is assured, it will be interesting to follow the price of tin based on the law of supply and demand. It was predicted that when an open market was announced, there would be a decided advance in the price of tin at the sources of supply, but much to the surprise of the trade, there was only a slight advance in price, followed almost immediately by a sharp decline, both in London and the Far East. The reason advanced for the failure of the market to respond upward to the announcement of the removal of the embargo restrictions, was that it was probably due to competition for orders, business being based on a real market and actual conditions instead of a restricted market. Besides, consumers are disposed to go slow and await developments for the reason that they have ample stocks to carry them for a considerable period of time.

There is naturally considerable speculation as to the quantity of tin at the various sources of supply, also as to the probable quantity stored at points in eastern and western Canada for immediate shipment into the United States after August 1, 1919. The bulk of the tin in the Federated Malay States, and the Dutch East Indies, is held by the respective governments, which assumed control in order to take care of the surplus stocks accumulated as a result of the embargo on shipments into the United States, some of the principal markets of Europe being unavailable.—Excerpt from reports of mineral investigations of the Bureau of Mines.

SUSPENSION OF ASSESSMENT WORK BILL BEFORE THE HOUSE

A bill by Representative Hawley, of Oregon, providing for the suspension of annual assessment work on mining claims for the year 1919 has been reported favorably by the House Committee on Mines and Mining. The bill provides, however, that no such suspension shall be granted to any one claimant for more than five claims. The committee amended the original Hawley resolution further by striking out the provision that the suspension is not to apply to oil placer claims.

The bill was the subject of exhaustive hearings. Representative Taylor made the chief fight against the bill, on the ground that the mining industry needs the stimulus that will come with the reopening of assessment work. He said, however, that he had no objection to the exemption of two or three claims and is fairly well satisfied with the five-claim exemption. His fight was aimed, he declared at the "claim hog."

The arguments for the bill were chiefly the need of keeping the small amount of available skilled labor at work in the mines which are producing. It also was shown

that the assessment requirement would work a particular hardship at this time on the holders of chrome and other claims. An important part of the evidence was contributed by James F. Callbreath and H. N. Laurie, of the American Mining Congress.

The bill later passed the House with but one vote against it.

HIGH PRICE CAUSES WEST TO REOPEN OLD SILVER MINES

The high price of silver has caused the reopening of old silver mines in the West which are being developed in anticipation of continued high prices. The production from these mines will tend to offset the loss caused by the reduction in copper output. The silver produced as a by-product of copper mines has amounted to a little less than one-third of the silver produced. Therefore, a reduction of 30 or 40 per cent in copper output would mean a reduction of about 10 per cent in the total output of silver. In order to make up this deficit it would be necessary for the silver mines to increase production by about 30 or 40 per cent. Whether this increase will be realized is problematical. This increase would amount to about 7,000,000 ounces a year, and it does not appear likely at present that this can be realized this year.

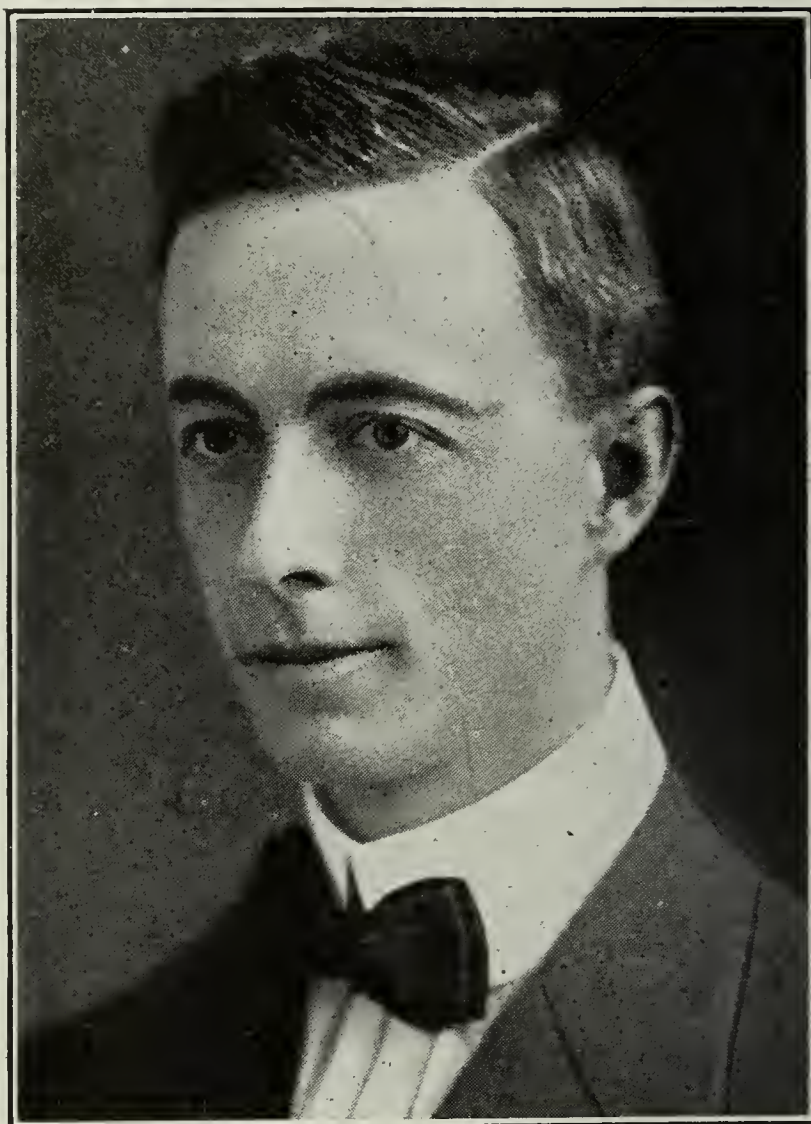
The export market for silver seems almost unlimited. Both China and India are in the market for large amounts. The Indian situation is almost acute. Large quantities of silver have been imported into India in recent years which have been swallowed up, and disappeared from circulation, owing to the hoarding custom of the country. India is again in need of silver and it is rumored that another large consignment will be sent there from the United States.

The large consumption by India has created a shortage in the market for use in other countries. Many inquiries for the purchase of silver for foreign markets have been reported, owing to the removal of restrictions on the exportation of silver, and the surrender of control of England.

The situation has caused a movement in the United States toward the organization of a silver export association to control the export price of silver. In the past England has been in control of prices on account of her position as the largest purchaser. However, conditions are such at present that it may be possible for the United States to exert a large influence, and possibly control prices.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Alabama Development

Several companies are now actively at work in the development of the Alabama mica mines. Within the past few days a number of new companies have been organized in Anniston. Alabama mining men believe that their state is just entering a period of rapid development of its mineral resources.



H. N. LAWRIE

Who has resigned as Chairman of Oregon Bureau of Mines and Geology to become the Chief of the Precious and Rare Metals Division of the American Mining Congress.

Dumping of Quicksilver Feared

The domestic quicksilver producers recognize the present conditions as being temporary, and fear the dumping of European quicksilver in New York after the peace treaty has been signed, the more so as the rate of exchange is also against them. Most California producers, except those connected with the New Idria Mine, have little capital, and can not continue production unless they have a market, and even the New Idria Mine was forced to shut down when there was no call for the metal. The producers hope to get a protective tariff, basing this hope on the President's recent message in which he mentions industries related to the manufacture of explosives as deserving special consideration by the Tariff Board.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Reversed Profits

The report of the Alaska-Juneau Gold Mining Company for the year ending December 31, 1918, showed gross income amounting to \$460,323. This item might appear an alluring argument to show that gold mining is profitable, but placed against the operating expenses, which were \$785,822, the deficiency for last year stands \$325,499. This is about the normal percentage of loss in the gold mining business as it goes today, the result of the constantly increasing costs of production.

GEORGE S. RICE ANALYZES EUROPEAN COAL SITUATION

That the United States may be called upon to make up an alarming coal shortage in Europe, due in part to what may amount to the destruction of England's great export coal trade through labor difficulties, is indicated in a report just made to Director Van H. Manning of the Bureau of Mines, Department of the Interior, by George S. Rice, chief mining engineer of the bureau.

Mr. Rice, member of a commission from this country to Europe to investigate mining conditions, has just returned to Washington after a several months' visit and with a gloomy outlook for the entire coal situation of Europe.

"Perhaps the most serious changes in the coal problem are taking place in Great Britain, which has always been the greatest coal-exporting nation of the world," said Mr. Rice, "with a production of 287,000,000 tons in 1913, the last pre-war year, she exported 77,000,000 tons to countries that were in dire need of coal."

The startling changes in the after-war period are based on the coming award of the Coal Industry Commission, a Parliamentary committee, the report of which goes into effect July 16, and which reduces the hours of labor underground from eight to seven hours, and "subject to the economic position of the industry at the end of 1920, the hours of labor underground to be reduced to six." In discussing the effect of this, Mr. Rice quotes Sir Auckland Geddes as calling to the attention of the House of Commons that during the next year, under this award, the production of coal will be lessened by 70,000,000 tons, practically England's export trade, and that the reduced output and increase of wages will cost \$1.06 more per ton, altogether an increase of more than \$200,000,000.

"The seven hours' work a day are exclusive of the average time of lowering or raising the workmen from the mine," says Mr. Rice, "but include the time of traveling to the working place, which means, according to the mine owners, that with the seven-hour day there will be less than six hours of effective work."

"The total British coal exports in 1913 were 77,000,000 tons. If the restrictions in the consumption of coal are removed on the basis of internal consumption of coal, this would leave but 7,000,000 tons for export. As France, Italy, Sweden, Norway, and Spain have largely been dependent on Great Britain for fuel, it can be realized that the situation is a serious one apart from England's loss of practically its only raw product export."

"France will be particularly hit by the conditions prevailing in Great Britain from whom she received in 1913 nearly 13,000,000 tons of coal. Altogether, before the war, she consumed 62,000,000 tons and imported from different countries 21,000,000 tons of coal, coke and briquets. The mines destroyed by the Germans produced 20,000,000 tons of coal in pre-war times and at least two-thirds of the destruction

was systematic, wanton and without military necessity.

"It is estimated by the French engineers that it will take from two to five years to restore the broken shaft linings and to unwater the mines and to rebuild the surface plants and that it will take ten years to completely restore the production rate of those mines. The taking over by France of its former provinces of Alsace and Lorraine, and its occupation of the Saar district has, however, altered the fuel needs of France.

"Contrary to the general impression, the coal mines of Belgium were not destroyed by the Germans.

"Of the great allied nations Italy is in the worst situation regarding fuel. In 1913 it produced less than three quarters of a million tons of coal and imported from Great Britain that year 10,000,000 tons.

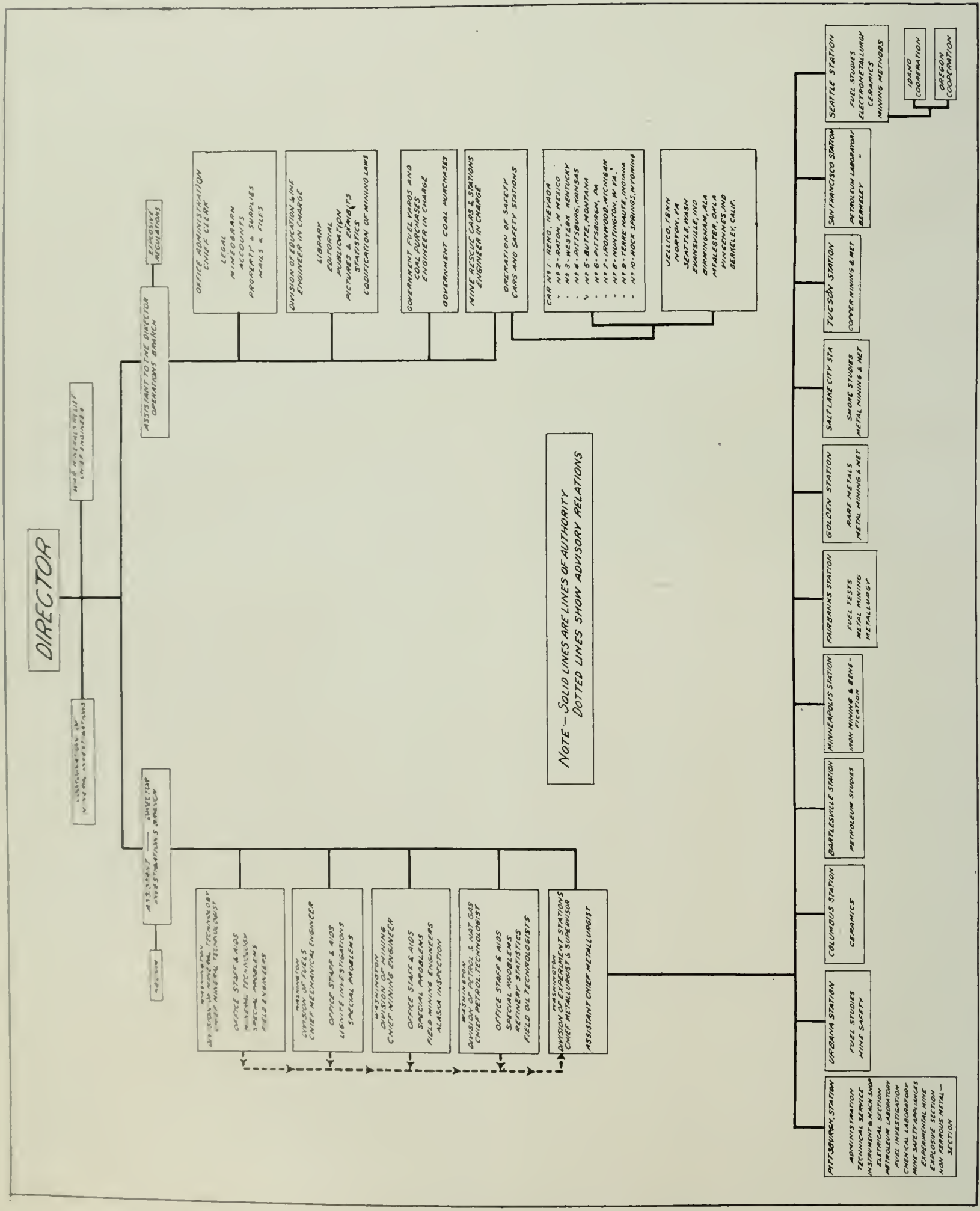
"To sum up the situation, western and southern Europe is badly in need of coal. Heretofore, the deficiencies in the different countries, amounting to 50,000,000 tons a year, were supplied by Great Britain, which now faces a loss of its export business through reduction in its coal production.

"It will be noted that in 1913 Great Britain supplied 31,000,000 tons to North Europe, 32,000,000 tons to France and South Europe, that is, 63,000,000 tons to the above-named countries, and others in Europe, and 14,000,000 tons to other parts of the world, including about 9,000,000 tons to South America.

"In the course of the War Great Britain instituted certain restrictions in the use of coal.

"If the restrictions are removed, Great Britain will have but 7,000,000 tons of coal for export during the coming year. On the other hand, if these restrictions are maintained, according to the Parliamentary commission, there will be 23,000,000 tons for export purposes. If all this coal were shipped to western and southern Europe, it would leave a deficiency of more than 25,000,000 tons, without considering the 14,000,000 tons which in 1913 Great Britain supplied for other parts of the world. There is thus a total deficit at this time of approximately 40,000,000 tons a year which, if it is to be supplied at all, can only be supplied by America, on the assumption that Westphalia and Belgium are unable to materially increase production. At best there is evidently a very large amount of coal which the United States could and should supply to relieve the situation now that there is likely to be sufficient shipping flying the American flag to take care of the business."

The "Class 1" railroads only lost \$36,000,000 in May. But that isn't much considering the high cost of things generally and the fact that from January 1 to June 1 this year the net losses from government operation reached \$272,250,183 and some cents.



BUREAU OF MINES IMPROVES ITS ADMINSTRATIVE SYSTEM

With the idea of improving the administrative handling of the constantly increasing work being done by the Bureau of Mines, Dr. Van. H. Manning, the director, has put into effect a new plan of organization. The bureau is divided into two parts, to be known as the investigations branch and the operations branch. All research and technical work comes under the investigations branch, which will be in charge of the assistant director. The remaining functions of the bureau will be administered by an assistant to the director. Dr. F. G. Cottrell has been selected to head the investigations branch and F. J. Bailey to head the operations branch.

No changes in the personnel other than those mentioned have been made as a result of the new system. Mr. Bailey has served the bureau for many years as chief clerk, and his promotion is bringing him many commendatory letters from the mining industry, with which he has been in such intimate contact. The vacancy in the office of chief clerk will be filled by H. E. Meyer.

The cut on the opposite page gives a graphic idea of the new administrative plan.

A Time Bonus

Resuming a practice which was discontinued during the war, Peabody Coal Company has again put into effect a unique bonus.

During the summer months each employee in the main and branch offices, from the president to the office boy, is given one day a week off with full pay, this in addition to the regular Saturday afternoons and two weeks' vacation.

This "Time Bonus," originating with the Peabody Coal Company some years ago as an experiment, has been so successful in promoting the health, efficiency and loyalty of its employes that the officials of the company consider it a paying proposition. How the employes look at it of course goes without saying.

Export Conservation List

The War Trade Board Section of the Department of State announced July 14 that all commodities have been removed from the Export Conservation List.

Particular attention is called to the fact that the regulations heretofore in force governing shipments of coal and coke to Scandinavia and Holland have been rescinded and W. T. B. R 735, issued May 14, 1919, has been revoked. Accordingly coal and coke may now be exported freely without individual license under the terms of Special Export License RAC-77, as amended, effective July 14, 1919, to all the countries therein mentioned.

Monterey Steel Plant Running

It is reported that the steel plant at Monterey, Mexico, has renewed operations to full capacity. This is the largest establishment of its kind in Mexico. It produces steel rails, commercial iron, and other kindred articles.

TRANSPORTATION OF GASOLINE SAID TO CAUSE MUCH DAMAGE

The Bureau for the Safe Transportation of Explosives and Other Dangerous Articles, the recognized agency of the Railroad Administration for dealing with such matters, has sent to the shippers of gasoline, and owners, lessees and builders of tank cars, a circular calling attention to the fact that loss and damage to life and property, due to the transportation of gasoline during 1918, caused many times as much loss and damage as the transportation of the unusually large volume of explosives required to meet war conditions.

The circular shows that in the eight year period from 1910 to 1917 inclusive, 78 people were killed, 607 were injured and a property loss of \$1,626,000 resulted from the transportation of gasoline on railroads, while during the same period only 3 people were killed, 30 injured and property loss of \$147,000 resulted from the transportation of explosives on the railroads.

In 1918 under war conditions, 16 deaths, 46 injuries and a property loss of \$881,000 resulted from the transportation of gasoline on railroads, while for the same year there was 1 death, 4 injuries and property loss of \$33,000 resulting from the transportation of explosives alone.

The circular calls attention to the fact that the average tank car as now used, has defects that cause leakage and points out how shippers can remedy such defects. The circular also calls attention to existing federal statutes and Interstate Commerce Commission regulations on the subject.

Make the Mine Timbers Last

Mine owners find that it is absolutely necessary to keep all timbers used in the interior of the mines in the best of condition as in years past many cave-ins and accidents have resulted from the deterioration of the timbers. These timbers, used as supports and struts across the top of the passageways in the mines, are subject to the action of gases and fumes which occur in the mines and also to insect attack. These different destructive agencies cause the decay of the wood and as a result, the timber lasts only about six or seven years on the average. Of course they may not actually fail at the end of that period, but beyond that time their condition is such that they are considered unsafe.

It has been found that the life of the timbers can be doubled and even trebled by coating them with a creosote compound which will fill up all the pores on the exterior of the timber and prevent gases, fumes, etc., from acting on the wood. The coating of these timbers is a very simple process and is quite economical. When it is considered that the life of the timbers will be greatly lengthened and constant repairs along the shafts and passageways in the mines eliminated, as was the case when uncoated timbers were used, it is readily seen that this creosote covering will be a very profitable investment for mine owners.

BUREAU OF MINES AND CARNEGIE INSTITUTE COMPLETE PLANS FOR EDUCATIONAL COOPERATION

Twenty-five of the leading representatives of the coal mining industry of western Pennsylvania, met recently in conference with President A. A. Hamerschlag, of the Carnegie Institute of Technology, with a view to bringing about closer relations between the Institute and the mining interests. It was felt that the advice of the men in the field was necessary in the proper training of young men for mining work. A resolution was adopted at this conference which, among other things, called for a board of mine operators and engineers to serve in an advisory capacity with the Carnegie Institute of Technology. As a result of the counsel and recommendations of this Advisory Board, the Carnegie Institute of Technology, in cooperation with the U. S. Bureau of Mines, has recast its four-year course in Mining Engineering, and has also established a two-year course in Coal Mining. To carry out this new program, there has been organized the "Cooperative Department of Mining Engineering" in the Division of Science and Engineering of the Carnegie Institute of Technology.

A large percentage of young men who are brought up in mining communities do not follow the line of work of their fathers. The question of keeping up the supply of trained men for the mines is, therefore, a difficult one. Few college men are attracted to the coal industry or realize that the possibilities of making a good income from coal mining and the coal business, are probably greater than in any other branch of the industries. The desire of the Cooperative Department of Mining Engineering is to counteract these tendencies and to interest young men in the coal mining industry.

The object of the cooperation of the Carnegie Institute of Technology, the mining industry, and the U. S. Bureau of Mines, is to bring about better mining conditions, and greater efficiency in mining operations. Decreasing coal deposits and increasing costs of production make it urgently necessary for the coal operators to take advantage of everything which modern science, machinery and methods can contribute. The interests concerned believe that one of the best ways to provide for the future is to offer to selected groups of promising young men in the Pittsburgh district, who may have had a certain amount of mining experience, an opportunity to fit themselves to study the broader phases of coal mining. At the recent meeting of mine operators and engineers mentioned above, the following action was taken: "Resolved, that this group give its approval and moral and material support to the form of education proposed for the Carnegie Institute of Technology, by which students may receive a combined technical, practical and business training necessary to fit them for service in the coal mining and allied industries."

President Hamerschlag says: "We are located in the very center of the greatest bituminous coal mining district in the world. This new project, with all interests concerned behind it—

labor, capital, the government, and a teaching staff of engineering experts, should do much in the course of a very few years in producing improvements in coal mining that should bring great returns both in harmonious and successful mining operations, and in the satisfaction which all the interest involved will have in working out together the necessary solutions of their common problems."

TEN MILLION POUNDS OF TUNGSTEN USED IN 1918

An interesting summary of the consumption of tungsten in 1918 based on questionnaires distributed by the Bureau of Mines, shows that the tungsten used in the making of tungsten powder, ferro, and acid, from May to December, 1918, amounted to about 7,500,000 pounds, from which it is estimated that the total tungsten used in such products for the calendar year of 1918, amounted to about 10,000,000 pounds, and that the amount of tungsten used in making malleable products during the same time was approximately 210,000 pounds. The quantity of high-speed steel made from May to December, 1918, was nearly 30,000,000 pounds, from which it is estimated that the total weight of such steel in the year was somewhat in excess of 40,000,000 pounds; the tungsten content was probably nearly 7,000,000 pounds. The tungsten steel made from May to December, 1918, was in excess of 45,500,000 pounds, from which it is estimated that the total quantity produced in 1918 was approximately 62,000,000 pounds. The amount of 60 per cent concentrates required to make the tungsten powder, ferro, and acid used in 1918 was approximately 13,000 tons, assuming that 1 ton of 60 per cent concentrates is reduced to 760 pounds of contained tungsten in ferro.

During the past eighteen months about 50,000 tons of molybdenum steel, has been made in this country with very encouraging results, and it is now understood that some of the leading alloy steel makers, believe that steel containing a relatively small quantity of molybdenum, is superior to any other known material for high-grade aeroplane parts, such as crank shafts. The other alloying metals making up the steels are variously reported as nickel, vanadium, and chromium.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Copper Costs Fall

The copper situation shows decided improvement. Buying has increased both for domestic and foreign consumption. Cost of production has also gradually fallen, owing to reduced cost of supplies and labor since the armistice was signed. Several of the large copper companies showed a decided decrease in the cost of production such as from 19.3 cents to 15.1 cents, and another from 16.42 cents to 13.72 cents.—Excerpt from reports of mineral investigations of the Bureau of Mines.

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Graphite Situation Reviewed

The graphite-mining industry is dependent directly upon the metal industries. The use of graphite in the manufacture of crucibles, of foundry facings and of lubricants furnishes the link that ties the two industries.

The steel business, which consumes 30 to 40 per cent of the graphite crucibles manufactured has, in common with most of the metal industries since the signing of the armistice, shown the effects of the uncertainties attendant upon readjustment in this country and reconstruction abroad. That branch of the steel industry which deals with the manufacture of armor, ordnance, etc., has been particularly affected

by the misunderstanding as to a price-fixing program. These conditions reflect directly upon the demand for crucibles and indirectly upon the demand for graphite.

The cancellation of munitions contracts shortly after the signing of the armistice affected seriously the business of non-ferrous foundries, most of which were producing alloys or metals for direct consumption by the United States or allied governments. Since February, at which time, apparently, the nonferrous metal industries touched the ebb of production, there has been a gradual increase of business, but conditions still are far from favorable for the graphite crucible industry, chiefly because of the stocks of high-priced raw materials on hand, the high prices that must be charged for crucibles, and the large supplies of crucibles both in users' and manufacturers' hands.

In November, 1918, graphite production amounted to about one-fourth the full capacity of all plants in this country. At that time, by reason of the request of the War Industries Board regarding the use in crucible graphite mixtures of 20 per cent domestic No. 1 flake, and the backing up of this request with the War Trade Board's regulations as to the licensing of imports of overseas graphite, it was apparent that any demand at all for graphite for crucible manufacture must also furnish some outlet for part at least of the domestic production. With the sudden removal in January, 1919, of all import restrictions on graphite, all assurances of a market for domestic flake were removed and the domestic miner was thrown into direct competition with foreign graphite, large stocks of which existed in France, Madagascar and Ceylon.—Bureau of Mines Minerals Investigations.

Saving the Money

Director Densmore, of the United States Employment Service, announced, July 14, that the weekly telegraphic reports of the labor conditions throughout the country would be discontinued because of a lack of available funds. We have no idea that there will be a general regret that Congress failed to make possible a continuance of this ponderous, expensive and impractical method of spending public tax money.

Nitrate Restrictions Removed

The War Trade Board Section of the Department of State announces that nitrate of soda may now be imported freely under the authority of General Import License PBF-37, thus eliminating the necessity of securing individual import licenses to cover importations of this commodity.

GEOLOGICAL LINE TRACED BY COMMERCIAL DEVELOPMENT

There is no publication which treats of the Fall Line as such or as a whole. Information on the subject is scattered through a mass of geologic and geographic literature and much of it is not easily available to the general reader. Therefore the accompanying statement, summarizing the main facts, has been prepared by Mr. Laurence LaForge, a geologist of the United States Geological Survey.

The Fall Line is the boundary between the Coastal Plain and the Piedmont Upland—the two geographic provinces into which the Atlantic Slope, from the foot of the Appalachian Mountains to the coast, is divided, south of New York Bay.

The Piedmont Upland or Piedmont Plateau is a broadly rolling upland region, dotted here and there by small isolated mountains or by groups and short ranges of mountains and deeply trenched by the valleys of the streams that flow across it from the mountains to the Coastal Plain. Its surface slopes, on the whole, gently eastward from the base of the mountains to the Fall Line, where it lies from 300 to 600 feet above sea level in different parts of the province. It is formed nearly everywhere of hard rocks—most of them very old geologically—which are resistant to erosion and give it its character as an upland.

The Coastal Plain is very different, being low and flat and not generally deeply trenched by valleys. In few places along its western margin does it lie more than 400 feet above sea level and it slopes almost imperceptibly southeastward to the coast. It is formed almost wholly of soft rocks and of incoherent materials, such as sand and clay, all geologically quite young.

Many streams, large and small, flow across the line from the Piedmont Upland to the Coastal Plain, from the hard rocks to the soft ones, and this change in the conditions is marked by a striking change in the character of their valleys, their channels, and the streams themselves. In the Piedmont, especially near the Fall Line, the streams flow swiftly over rocky beds, many of them are dotted with small islands, and the water is generally shallow; in the Coastal Plain they flow sluggishly in deep channels, generally free from islands, over beds of sand and mud. In the Piedmont the valleys are deep and narrow, in the Coastal Plain they are wide and shallow and generally bordered by marshes and swamps. At or just above the places where the streams pass from one to the other most of them have notably steeper grades and are marked by falls or rapids, such as the Falls of the Delaware, above Trenton; Great Falls, on the Potomac, above Wash-

ington, and the Falls of the James at Richmond, and the Fall Line is named from this fact. It is well marked as a line of falls and rapids from New York Bay to central Alabama, but beyond Alabama River it loses its distinctive character.

The Fall Line has had an important influence on the history and the commercial development of the Atlantic Slope. From New York Bay to Appomattox River the large streams, from the Fall Line to their mouths, are deep and generally broad estuaries, open to sea-going vessels, and the line thus marks the head of marine navigation on the streams. It also marks the lowest point on the streams at which they can be crossed by fording or, except at great expense, by bridges. Between New Brunswick, N. J., and Petersburg, Va., the only bridge across a large stream is the one across the Delaware at Philadelphia. The falls and rapids also furnish power for manufacturing purposes, which has been developed at a number of places. The Fall Line is therefore well marked by a chain of cities and large towns, the chief of which are New Brunswick and Trenton, N. J.; Philadelphia and Chester, Pa.; Wilmington, Del.; Baltimore, Md.; Washington, D. C.; Fredericksburg, Richmond, and Petersburg, Va.; Weldon, N. C.; Columbia, S. C.; Augusta, Macon, and Columbus, Ga., and Montgomery, Ala. Each of these places owes its existence and importance either to its situation at the head of navigation or at the lowest feasible crossing place on the stream, or to the water power developed by the nearby falls or rapids, or to all three factors.

It is noticeable also that the Fall Line marks a through line of travel, being closely followed by one or more trunk lines of railroad from New York far into the southern states. In this the railroads have taken advantage of the same natural conditions as did the Indians, for much of the line was a well-marked Indian trail before the European settlement of the region. The Indians found the streams most easily crossed at the Fall Line, just as do the railroads, and the crossing-places, situated as they were at the head of tidewater on many streams and therefore affording good landings for canoe traffic, were chosen as the sites of their villages, several of which stood where now stand some of the cities and towns along the Fall Line.

For the first time in a long period the Calumet and Hecla Mining Company will not pay its quarterly dividend. Two thousand miners were laid off previous to the present rise in copper, but now every available man is being hired, and prosperity seems to have resumed its old job in the Michigan copper mines.

CUT IN RATE ON COAL FOR SOUTH AMERICA ANNOUNCED

The Shipping Board announced July 15, a reduction of \$2.50 per ton in rates on coal to South American ports. The following is the new schedule:

All of the above subject to 1,500 tons guaranteed daily loading except coke for west coast, 800 tons guaranteed daily loading.

Effective same date, a like reduction of \$2.50 per ton will be made on cement to ports on east coast of South America, the new rates being, for example: to Rio de Janeiro and Buenos Aires, \$20.00 per ton of 2,240 pounds.

The Shipping Board explains that this reduction is made for the purpose of encouraging the export of American cement and coal to South America in competition with foreign sources of supply. The reduction does not in any way affect other commodities and no further reductions are contemplated.

Safeguarding of Patents

The Secretary of the Treasury has authorized the following statement:

"The attention of Secretary Glass has been called to an article in a New York paper appearing under date of July 5th with reference to the visit of a special investigator from Argentina to study the situation in the United States. The statement is incorrect in a number of particulars, and is especially unfortunate because of the implication that officials of the United States Government, and United States Section of the International High Commission, regard the Argentine law governing Trademarks and the Argentine Patent law as conducive to piracy of patents and trademarks.

"At all times the discussions with reference to the putting into effect of the International Trademark Convention have been carried on in an atmosphere of friendly and constructive cooperation, by the representatives of all the governments that took part in the First Pan-American Financial Conference and by none more so than Argentina. The adjustment of the International Convention, and the domestic trademark legislation of Argentina, has presented difficulties which that government is endeavoring to solve. There is of course no question of patent difficulties, nor has patent legislation formed a subject of discussion.

"Any reference to a boycott to Argentina by United States business men and manufacturers is absurd. The officers of the International High Commission deplore the publication of any baseless statements of this character."

To Fight Fake Stocks

The Commercial Travelers of America, 30,000 strong, have declared war on the promoters of fraudulent stocks, according to an announcement by the Treasury Department. The traveling men have announced their intention of carrying a warning to every city, town and village, in their territory against fake stocks, and get rich quick investments and against the dealers who make a practice of buying War

Saving Stamps and Liberty Bonds below their real value.

Imports of Tin

The War Trade Board Section of the Department of State announced July 24, that W. T. B. R. 799, issued July 2, 1919, has been amended so as to advance from September 1, 1919, to August 15, 1919, the date on and after which pig tin, and all metal alloys containing tin, including tin drosses, tin oxides, solder drosses, type metals, antifriction metals, waste metals, and other metals containing tin may be imported from points other than points of origin and without reference to the date of shipment.

Pursuant to the above-mentioned amendment, on and after August 15, 1919, pig tin and all metal alloys containing tin, including tin drosses, tin oxides, solder drosses, type metals, antifriction metals, waste metals, and other metals containing tin will be permitted to be imported into the United States under General Import License PBF-37.

MAGNESITE RESERVES WILL LAST AT LEAST A GENERATION, IT IS SAID

Magnesite in California is found in veins which vary considerably in length and thickness. This irregularity of occurrence adds to cost of mining as compared with the Grecian material. In Washington, it occurs in massive beds and the methods of extraction employed are quarrying, rather than mining, though tunnels are run. The reserves in Washington are of great magnitude, and while those in California are not so great, they are of great extent at several properties.

If the annual consumption of magnesite in the United States be taken as 350,000 tons of crude, our domestic supplies would last a generation and there is always the possibility that new discoveries will be made and thus extend the life of the industry.

No deposits are pure and the material has to be selected, but in this respect, the domestic mineral is no different from the foreign.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Platinum Operations in Colombia

The inactivity of the Russian platinum mines has caused a corresponding increase in activity in Colombia. A large company has recently been formed to operate in Colombia, which is reported to hold 10,000 acres of land as well as 50 miles of river bottom. The operations of this company should materially increase the output of platinum from Colombia.

A substitute for platinum in electrical apparatus has been the object of some private investigations. One satisfactory substitute for cathodes was found to be 90 per cent gold and 10 per cent copper. The same alloy was found suitable as an anode after being electrically coated with a thin layer of platinum and then carefully polished and burnished.—Excerpt from reports of mineral investigations of the Bureau of Mines.

MEXICANS REVISE MINING LAW PAYMENT TIME EXTENDED

The official text of the provisions of the new mining law in Mexico, signed June 27, 1919, as published in the daily press of Mexico City, has been received by the Department of State. The articles under the chapter head of "transitory," which state the time of grace for the cancelling of all outstanding fines, are of special interest to the proprietors of Mexican mining claims who live in the United States. They are as follows:

"Article 1. The present law will be effective on July 1, 1919.

"Article 2. The decree of the 26th of April, 1918, is hereby repealed, as well as all the laws and anterior provisions made up to the present relative to imposts and mining privileges.

"Article 3. All penalties due from the tax-payers on the annual impost on mining property, including those accumulated to the date of the promulgation of the present decree, are hereby cancelled.

"Article 4. All tax-payers owing the impost on mining claims are given the months of July and August without penalty in which to settle the first and second installments (tercios) of the current year.

"Article 5. Proprietors of mines with payments due previous to 1919, and who have covered the two-thirds of this year in accordance with the preceding article, may settle their over-due obligations in as many payments as they owe installments, by paying each over-due third at the same time that they pay their ordinary imposts.

"Article 6. If the interested parties do not take advantage of this concession or if, having the right to same, by virtue of having complied with the law, they do not make the payments on the dates when they are due, the forfeiture of the titles will be declared as prescribed by law, without further recourse.

"Article 7. The parties who take advantage of the concession set forth in Article 5, transitory, are obliged to present to the Secretariat of Hacienda a declaration setting forth the following data: Office where payment is made, number and date of the title, registration number, name of the estate or estates, name of the present proprietor, amount of the debt and voucher covering the two-thirds of this year. The period during which the concession set forth in Article 5, transitory, may be utilized, will expire the 30th of September of the current year.

"Article 8. The imposts of mining property or on the production of metals, which may be owing when this law goes into effect, will be liquidated and paid in accordance with the quotas of the decree of April 26, 1918, which is nullified by the present decrees.

"Article 9. While the present international restrictions exist, which affect the free commerce of gold, the exporters of mixed bars of whatever composition, of gold, minerals and all classes of concentrates, when these have a percentage of gold exceeding 2 grams per ton, must re-import into the country in bars of coinable gold or in

Mexican or foreign gold coin a quantity equivalent to the gold contained in the bars, minerals or concentrates which are exported.

"Article 10. The Secretariat of Hacienda will determine the procedure which must be followed to guarantee the re-importation of the gold referred to in the foregoing article.

"Article 11. The production impost will not be levied on gold which is re-imported in accordance with the foregoing articles, since it will have already paid this impost on exportations.

OIL MACHINERY COMPANY ATTACKED IN COMPLAINT

False and misleading advertising and misrepresentations to the public in the interstate sale of stock of the Non-Derrick Drilling Machine Co., Inc., Pittsburgh, ostensibly organized for the manufacture of an apparatus for the drilling of oil, gas, and water wells, are charged in a formal complaint issued against the concern by the Federal Trade Commission.

The company, which was incorporated in June, 1917, the complaint sets forth, has not yet engaged in actual manufacture, and the only business it has engaged in, it is alleged, has been the sale of its stock of which 123,630 shares have been issued, 101,000 to one W. A. McClausland for certain patents.

The complaint alleges the concern has published false, misleading, unfair and extravagant statements, reports, promises and predictions concerning its business, progress, capital stock, financial standing, and prospective profits, and has suppressed and concealed from the public material facts relating to its plans, organization, business and capital stock. False, misleading and unfair statements, predictions and promises concerning the existence, character, value, strength, durability, efficiency and operation of its drilling device, also are alleged.

The concern is cited to make answer before the Commission in Washington, August 11.

MAGNESITE INDUSTRY REPRESENTS MILLIONS OF INVESTED CAPITAL

The different California plants for mining, handling, and calcining magnesite are built upon the same general principles. Mining is carried on by overhand stoping and backfilling to avoid caving. The ore is hauled from the mines in small cars to the bins or bunkers and may be sized there, after which it goes to the calcining plants either by aerial tramways or by gravity planes or chutes. It is then calcined, and crushed or sized, after which it is ready for the trade. In Washington, the treatment involves the addition of iron oxide to bring this constituent up to the required degree. The plants are all more or less elaborate and in most of them the investment is considerable. It is estimated that the total plant investment in California and in Washington is \$3,500,000 to \$4,000,000.—Excerpt from reports of mineral investigations of the Bureau of Mines.

SUPREME COURT RULES AGAIN IN FLOTATION CASE

The Supreme Court recently announced its second decision involving the validity and extent of the Sulman, Picard and Ballard patent No. 835,120. The case decided was an infringement suit involving claims numbered 1, 2, 3, 4, and 12, known as "fraction of one per cent claims."

The defendant, the Butte-Superior Mining Company, since January 9, 1917, the date of the former decision, used in its ore concentration an excess of one per cent of oil on the ore. The oil used was a compound varying in composition from time to time, and the court took as typical a mixture made up of 18 per cent of pine oil, and the remainder of petroleum products, in the proportion of 12 per cent of kerosene oil and 70 per cent of fuel oil. Of this compound there was used 30 pounds to the ton of ore, which is 1.5 per cent on the ore. "It is obvious," the court say, "that the use of such an amount of oil would not infringe the claims of the patent which limit the oil to be used to a fraction of one per cent on the ore."

The Minerals Separation claimed that the fuel and kerosene oil were inert and valueless, if not harmful, as used by the mining company in the process, and rendered the recovery of mineral less than it would have been if the pine oil only had been used; and that these were added solely to carry the content of oil beyond the prescribed fraction of one per cent on the ore for the purpose and in the hope of technically avoiding the infringement, and that essentially in its operation the mining company used the process of the patent with 0.27 of one per cent of pine oil on the ore, and that this was in fact an infringement.

The court hold the Minerals Separation to its admission in the former case to the effect that petroleum products are "oils having a preferential affinity for metalliferous matter."

In the specifications in the British patent, the patentees being the same, "petrol" is given as an equivalent of oleic acid in the process. Each claim in the patent repeats the statement that the ore and acidified water shall be mixed or agitated with "a small proportion of oily substance such as oleic acid or petrol, amounting to a fraction of one per cent on the ore." Petrol is the name used in England for gasoline. The claims of the patent call for the use in the process of an "oily liquid," "an oily substance," and in claim 12, simply an "oil." These expressions, as admitted by the experts of the patentees, include petroleum products.

The court concludes that petroleum and petroleum products are oils, useful in this process of the patent, and say that these are not as highly efficient as pine oil and several other oils and combinations of oils, called "frothing oils," and that better results might be obtained by the use of less than one per cent on the ore, of pine oil alone, than in combination with the larger amount of petroleum products.

The court state the following question "necessary to a decision of the case:"

"Does the use of a more efficient, in combination with a less efficient, oil of the patent constitute infringement, where the former is used in an amount within the limits of the claims but the combined amount is in excess of such limit, and when the amount of the more efficient oil used would probably produce better results from the process than are produced with the combination of oils?"

It is regrettable that the court did not plainly and without equivocation answer its own query in the negative. By a careful reading of some three pages of involved statements and supposed argument and by a comparison of the court's conclusion with its statement of the claims involved, it may be concluded with some degree of certainty that the court did really intend to answer the question in the negative. The court did not seem to profit by the uncertainties in its opinion in the former case, although it is expressly stated that the error committed by the Circuit Court of Appeals was in the "construction which it placed upon one clause of the opinion of this court in the former case."

The Court held, plainly:

1. The disclosure of the patent to which the patentees are limited is that where a fraction of one per cent on the ore of any oil having a preferential affinity for metalliferous matter is used in the manner prescribed, there will be produced a metal-bearing froth, the result of the process.

2. The patent does not point out in any of the claims that some oils or combinations of oils, having a preferential affinity for metalliferous matter, are more useful than others, in the process, or that some may be used successfully and some not, or that some are "frothing oil," a designation not appearing in the patent, and that some are not.

3. The patentees discovered the described process for producing the result or effect, the metal bearing froth, but they did not invent that result or froth; that their patent is on the process, and cannot be on the result, and that the scope of their right is limited to the means they have devised and described as constituting the process.

4. The patent considered in this special field of investigation must be construed strictly, but fairly, to give the patentees the full benefit, but not more, of the disclosure of their discovery, which is to become a part of the public stock of knowledge upon the expiration of the patent period, and which was the consideration for the grant to them of a patent monopoly.

5. The provision of the claims that the mixture prescribed of oil, water, and ore, shall be agitated until the oil-coated mineral matter forms into a froth cannot be construed as serving to differentiate the "frothing oil" from

thers having the required preferential affinity or metalliferous matter, but which when agitated in the mixture may not produce the characteristic froth; and the patent cannot be construed as limiting it to such "frothing oils," and render the use of them in fractions of one per cent on the ore an infringement when used with non-frothing oils having the required affinity in amounts sufficient to make the amount exceed the quantity limit of the patent.

6. When the patentees failed to differentiate among the oils described in the patent as more or less efficient in the process, it is impossible for the court to distinguish among them without mending the claims of the patent.

7. The patentees themselves have construed the patent to mean that the essence of the discovery lay to such an extent in the use of a small amount of oil such as is described in the patent and that the result could not be obtained with more than a fraction of one per cent on the ore.

8. It cannot be argued that there was some peculiarity in the composition of the ore of the mining company, or in the treatment of it, which resulted in the presence of "clayey gangue limes" which absorbed an unusual amount of oil, and that this contributed to render it possible to produce the results of the patented process when more than the prescribed portion of one per cent of the oil on the ore was used.

9. The use of petroleum products and pine oil, in excess of one per cent on the ore, does not constitute infringement.

STATE DEPARTMENT DECLARES

DOHENY ACTED IN GOOD FAITH

The Department of State announced July 18 that the statement which has appeared in the public press, intimating that in the opinion of the Department, E. L. Doheny, the oil operator, obtained his European passports in January, 1919, from the Department under false pretenses, is erroneous.

A misunderstanding grew out of an alleged interview which appeared from Halifax to the effect that Mr. Doheny and F. R. Kellogg were going abroad and expected to appear before the Peace Conference, and of despatches, attributed to the oil association, contradicting the Acting Secretary of State as to the reasons for the trip. Inasmuch as the Acting Secretary of State had not understood that it was the intention of Messrs. Doheny and Kellogg to appear before the Peace Conference when their passports were granted, the matter was taken up by the Department of State through the American Embassy at London, where Mr. Doheny was at the time. The statement then given out by Mr. Doheny denying the Halifax interview and explaining just what were the purposes of his European trip was accepted by the Acting Secretary of State.

The department is entirely satisfied that there was no false pretense or lack of good faith on Mr. Doheny's part in connection with the issuance of his passport.

SEE HOPE FOR DOMESTIC

MANGANESE INDUSTRY

Production and sales of domestic manganese ores continue light although from the reports of activities in various districts there is evidently a feeling on the part of certain operators that under favorable conditions of occurrence of ore and moderate freight rates, manganese can be produced in competition with foreign ores. There is reason to believe that this feeling is justified, and it is not unlikely that a limited production of domestic ores suitable for making 80 per cent ferromanganese, and a larger production of lower grade ores that can be sweetened advantageously by the higher grades of foreign ores will continue.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Bill of Lading Order

In the matter of Bills of Lading the Interstate Commerce Commission has issued the following order:

"This case coming on for further consideration upon representations made to the Commission by various parties to the record that many shippers have on hand considerable quantities of printed stocks of the forms of bills of lading now in current use; that the required discontinuance of the use of all such forms on August 8, 1919, in compliance with the terms of the order entered in this case April 14, 1919, would entail considerable loss and hardship upon shippers having such printed stocks of the present forms of bills of lading; that the time intervening before the present effective date of the order, to wit, August 8, 1919, is inadequate in which to have printed such supplies of the prescribed form of bill of lading as will be sufficient for the general purposes of the shipping public, and it having been suggested to the Commission that this situation might be relieved and the use of old stocks continued until supplies of the same were exhausted by the Commission's approval of some form of endorsement to be printed or stamped upon the old printed stocks indicating that the bill of lading was subject to all the conditions of the form prescribed in our order of April 14, 1919; and the Commission disapproving the latter suggestion, yet desiring to mitigate the hardships of the situation so far as is practicable:

It is ordered, That the effective date of the order heretofore entered in this case on the 14th day of April, 1919, be, and the same is hereby, postponed until September 8, 1919; but in all other respects, save that of the effective date, the said order of April 14, 1919, shall remain in full force and effect.

John Forbes Perkins, treasurer of the Calumet and Hecla Mining Company, has announced his resignation from that company to become a partner with W. Cameron Forbes, formerly Governor General of the Philippines, with the export and import firm of J. M. Forbes & Company, of New York.

CONGRESS HESITATES TO START COAL INVESTIGATION NOW

BY GEORGE H. CUSHING

Congress is reluctant to attempt any investigation of the coal situation at this time. A decided increase in the price of coal will be about the only cause which will stir into being a complete Congressional investigation. These deductions are based on the results of hearings before the Committee on Rules of the House of Representatives and on the general attitude of individual members of each House of Congress. The Senate has before it the Frelinghuysen resolution which provides for a coal investigation.

The hearings before the Rules Committee were based on a resolution by Representative MacGregor, providing for an investigation of the anthracite situation, and a resolution by Representative Huddleston, alleging profiteering in coal.

If there has been profiteering or other violations of existing statutes, the committee takes the position that the matter can be handled best, for the present at least, by the Department of Justice. It also is of the opinion, apparently, that it is too late for an investigation to have any influence on the situation this winter, and it is believed that the committee is of the opinion that an investigation at this time would raise false hopes for lower prices and cause many to delay further the purchase of coal supplies. The principal facts presented to the committee were furnished by George H. Cushing, the managing director of the Wholesale Coal Association. He discusses the hearing as follows:

"The Committee on Rules is the sifting committee of the House. Its function is to determine whether a certain line of investigation is advisable and its report will, in a sense, govern the action of the steering committee of the House. It was, therefore, quite important that the members of this committee should understand the coal situation and that its questions should be answered definitely.

"Mr. Huddleston appeared to explain the reasons for his bill. He declared he had made a study of the coal situation for months. He was convinced that prices had advanced sharply over what they were in war times and that operators were profiteering.

"He said that the cost of production had gone up about 45 per cent but that the sale price of coal had risen about 150 per cent. This could only be due to an effective combination among the coal people. He declared there was a nation-wide combination of coal operators coming to a focus in the National Coal Association which was now trying to get still more money for coal by scaring the people into buying coal in the middle of the summer through the use of nation-wide advertising. He accused the newspapers of selling out to the coal operators because the coal operators were spending money on advertising. He said that

as a result there was a widespread conspiracy to gouge the public on their coal bills.

"Mr. Huddleston declared he had laid the facts before Attorney General Palmer, who had ordered an investigation by the District Attorney, in Birmingham. He then had suggested to Mr. Palmer a nation-wide investigation by the Department of Justice.

"At the conclusion of Mr. Huddleston's remarks I requested Chairman Campbell to allow me to be heard, at a later time, more extensively than I had been heard the week before. I explained that my previous remarks had been addressed to the MacGregor resolution which deals solely with the anthracite situation. If the committee cared to go into the entire coal matter, I would like to talk on the general coal situation. Mr. Campbell then appointed Thursday morning of this week at 10.30 a. m. for my further appearance.

"I undertook to show that there was possible no such an effective combination of coal companies as Mr. Huddleston had declared existed. I said that if such a combination could be effected, even for a little time, it would very soon destroy itself by the very methods used to effect its control.

"For example, I showed that there was enough coal in the ground so that if it could be consolidated into one seam of 5½ feet in thickness, it would underlay a territory of 773,000 square miles. Assigning a square mile of land to each mine—which is more than the average mine controls—there was room in the United States for 773,000 bituminous mines. At present there are only about 7,500 mines. Therefore, there is room in the United States for one hundred times as many mines as now exist.

"I then showed that with less than 1 per cent of the territory actually under development an effective combination could not exist unless it could control the land which would support the remaining 99 per cent of the possible mines.

"This additional land could not be controlled in any way except by purchase since Congress by the passage of the Elkins amendment to the interstate commerce act had made it obligatory that the railroads should put all mines in operation which wanted to produce coal.

"I then showed how impossible it was to control the land because the carrying charges—represented by interest on investment and taxes—would, when compounded, double the value of that land every six and a half years. These carrying charges could not be paid out of current production. If added to the value of the land, the land itself could not be used profitably when the time came for its development.

"I indicated from this that an effective combination in neither anthracite or bituminous was possible. My further statement on that subject was substantially as follows:

"I submit for the information of the committee a calculation showing what it costs, in interest charges alone, to carry idle coal land under ownership but in reserve until it is needed. A supplementary statement explains the recent changes in the coal industry both as to the amount of land required to support a modern mine and as to the current selling prices on coal land.

"This statement is submitted as a partial explanation of all current coal prices, but particularly as an explanation of the more than puzzling anthracite situation.

"Speaking broadly, it must be apparent that as the need for coal grows, the value of coal remaining in the ground increases.

"Also, as the production of coal increases—and hence as the exhaustion of the coal measures progresses—the value of the coal left in the ground increases.

"Therefore, two influences are working simultaneously to advance the price of the coal land available for development. This high price of coal land must, naturally, be reflected in the amount of money charged off from earnings to pay the carrying charges on that land. In the statement submitted I recite one case—which is but an example of the common practice—coming under my own intimate observation. The selling price of that land today is at least fifty times what it was fifteen years ago.

"If land is owned and remains unproductive and if interest charges on the original investment are paid and compounded and added to the original outlay, the value of that land, on that account alone, doubles itself about every eleven years.

"County, State and Federal taxes have been estimated to amount to about 4 per cent of the current value of all listed and taxable coal land. If these taxes are paid and if the amounts are added to the 6 per cent interest paid on the original capital outlay, the annual fixed charge against the value of the property is 10 per cent. This means that the value of an idle piece of coal land doubles itself, due to interest and taxes paid, once in about every six and one-half years.

"If, in addition to the regular taxes and regular interest charges, there is charged against the idle property the war taxes and the war rates on money, the value of a piece of coal-bearing land doubles itself even faster.

"With those facts in mind, the whole anthracite coal situation becomes of peculiar and vital interest. It is idle to speculate what would have been the present status of the anthracite industry if the coal land had not been bought and controlled in major part by large interests. The fact is that most of that land was bought a long while ago. The first purchases, by some of the railroads, were made in 1871. A controlling percentage of the anthracite coal land was under control prior to 1890 or thereabouts.

"In the main, this ownership has been divided between two groups. One group represents the railroads traversing the anthracite field. The other group comprises private individuals who

have become the landlords of the independent operators.

"It makes no difference how this land is held—whether by railroads or by private concerns. So long as it was bought and paid for, there must be charged against it the interest on the original investment, compounded, and the taxes, compounded, paid to the county, the state and the federal government.

"However, these two groups have disposed of their payments in quite different ways. In the case of the railroads, the compound interest and taxes instead of being charged against the land and hence instead of reappearing in the capital account of the coal company itself as representing the correct value of the coal in the ground, have been charged in major part against the revenue of the railroad company, which owned the coal company, and have been charged into a suspense account in so far as the coal company is concerned.

"The private landlord, however, owned no railroad company which could absorb, conveniently, the amounts paid as taxes and interest on money invested in the land. So he had to add these items to the value of his coal in the ground.

"Because of these two methods of disposing of these charges we have, in the anthracite field today, two methods of accounting for the depletion of the coal land. The railroad company charges off to depletion account a modest sum—usually about 35 cents a ton. The private landlord, however, has to charge to his tenants a royalty which causes the extraction of his coal to return to him the original price of that land plus the accumulated and compounded interest and tax charges.

"Since the railroads first began to buy anthracite coal land, the value of that land has doubled itself about seven and one-half times. Thus, if the original purchase price of the coal was so little as 10 cents a ton in the ground, the present value of the coal in the ground is easily figured.

"The great situation in the anthracite field is that the railroad coal companies get their coal from themselves at one price per ton in the ground—quite fictitious it is true, but still what they have to pay. The independent operators get their coal—on royalty—from the private landlord at a much higher price.

"I do not say there is any present intention on the part of the railroad coal companies to use this advantage to destroy their independent competitors. Nor do I impute any other vicious motives or intentions to the railroad coal companies in the anthracite field. But it is apparent on the face of the returns that the railroad companies have the independent companies in a position where they can smother them at will. They can wipe out their competition over night by doing nothing more than announce that in future they propose to take full advantage of the difference between their cost of coal in the ground and that of their competitors.

"This is not said in any criticism of the railroad coal companies. It is merely an explanation of the exact situation in the anthracite

field. It is a vital public question for several reasons. In the beginning the railroad coal companies had the option of controlling the coal land or of having their potential competition control them and their solvency. They decided in favor of the former. They bought the land. Having bought it, these silent influences of compound interest charges and compound taxes began to play their inevitable part. Because that accumulation of charges now amounts to a great public burden on current production, it raises one of the most interesting public questions in America to ask, merely: "What policy shall we adopt touching our natural resources and our public lands?"

"The railroad anthracite coal companies adopted one policy—they bought and held the land—and we are now facing the inevitable consequences that the current users of coal are carrying, in the price paid for their coal, the burden of the accumulated interest charges and taxes.

"There has been proposed no alternative method which controls the natural resources without imposing an impossible burden upon future generations. That, then, is the true essence of the anthracite situation. It is nothing more than the logical outcome of an interesting experiment in one form of control of a natural resource when that experiment has been continued in for 48 years.

"An interesting fact in the bituminous coal field is: As individual companies grow and as single mines require more and more land to sustain them through the natural life of their modern plant, the ownership of bituminous coal land is coming to represent larger and larger acreages. That is, we are beginning in bituminous what is a fact in anthracite. We are going to face, therefore, the same question in bituminous before another generation has passed.

"Answering the question of the chairman, I said that there was no such thing today as uniformity of coal prices. This is indicated by the fact that within the last month I have seen quotations of prices on similar grades of coal ranging all the way from \$1.15 to \$4.00 a ton at the mines.

"I showed that the high prices were on the domestic sizes; the low prices were on the steam sizes. I explained the reason for that in this way.

"A car of coal goes to Buffalo consigned to one retail dealer who for some reason or another is unable to accept it. If the car stands on the track it accumulates the demurrage charges assessed by the Railroad Administration.

"If an attempt is made to move it on to some other retail dealer, the Railroad Administration not only adds a reconsigning charge to the accumulated demurrage but insists that the movement shall be at the local class rate.

"In Buffalo they have a switching charge which amounts to \$1.40 a ton.

"In some places they charge a rate as high as five cents a mile, whereas the ordinary through rate is one half a cent a mile. These charges, which have to be paid by the house-

holder, do not enrich the coal men. They simply measure the extortion of the Railroad Administration. These things explain the high prices in some places charged for coal sold at retail.

"On steam coal, however, these charges work exactly the opposite way. Steam coal is moved in large quantities to specific users. When they reject it—or announce that they are "out of the market"—there are no consumers beyond who can take that large quantity of coal. The demurrage charges and the reconsigning charges are then used to break the price which the steam user pays ultimately for the coal. This coal is, therefore, sold at a loss. This loss has to be made up by the higher prices charged to the retail dealers, and hence to the householder.

"As showing how these low prices are forced on steam coal, I called attention to the fact that there is an organization of purchasing agents at Chicago, Detroit and elsewhere. By allowing coal to accumulate unsold and subject to these extortionate charges they may break the price to their advantage.

"Answering questions about the profit that was supposed to be made by the coal trade I called attention to the fact that the cost of production to the independent anthracite operators for the month of April, a typical month, was \$5,309. This was exclusive of capital charges, overhead and selling expense. The average realization was \$5.02. This netted the independent anthracite operators a loss of 28.9¢ a ton. This, I said, had been typical of the anthracite situation since the armistice was signed in November.

"Speaking about bituminous, I said the figures on cost were not so readily available nor so easily expressed. I told, however, of bituminous companies which had spent their money for extension of mine development at the insistence of the Fuel Administration and having disposed of their ready cash, had borrowed hundreds of thousands of dollars to pay their taxes last fall. Within six weeks after they had so obligated themselves, the armistice was signed and the market went to pieces. Since then the bituminous operators had been struggling to collect enough money to repay the banks what had been loaned for the payment of taxes.

"I told of one mine which, while operating five days a week, had a cost of between \$1.65 and \$1.70 a ton. It had dropped down in working time to two and a half or three days a week in consequence of which the costs had risen to \$2.35 a ton. This also was typical.

"I told of another company which in the late months of the war had lost unmarried miners who lived in boarding houses to the army and had replaced them with married men who must have individual homes. In consequence, it had spent between \$750,000 and a million dollars for housing, which housing was unproductive of revenue and a dead loss when the mine was worked out.

"I made the statement that the operators were not making money when their war taxes were taken into account, but on the contrary were losing money as was illustrated by one

fact which came under my notice. The owner of a mine which had 800 acres of 7-foot coal and a thousand tons a day of production had offered to give this mine to a member of our association if he would operate it and assume the taxes upon it.

"There was quite a great deal more of detailed information of this kind but at the conclusion I put into the record a statement which I had prepared giving my statistical data bearing on the coal question today which will be found immediately subjoined."

CHROME MINES HERE PARALYZED QUEBEC KEEPS UP PRODUCTION

Practically no domestic chrome ore is being mined at present, and what shipments are made come from accumulations at mines and railroads of which there is probably a considerable tonnage yet available.

Chrome ore is being produced in fairly large quantities in the Black Lake district, Quebec, Canada. There are three companies operating in the district, namely: the Mutual Chemical Co. of Canada, Ltd., The Black Lake Asbestos and Chrome Co., and J. V. Belanger. The Belanger property is not producing ore at present, but work will probably be resumed shortly.

The ore bodies are of fair size and have been proven over a considerable area, and to several hundred feet in depth. Owing to difficulties experienced in maintaining the walls of the open cuts all the ore now mined is obtained from underground work, which while more expensive is more satisfactory from the operating standpoint.

There is but one mill, that of the Mutual Chemical Co., operating in the district which has a capacity of 100 tons of concentrates per 24 hours. The ore averages 15 per cent and better of chromic oxide. The recovery is 80 per cent and the concentrates average 50 per cent and better of Cr_2O_3 .

There was imported from this district, during May, 870 long tons of 50 per cent chromic oxide. No other ores were received during the month; the imports, therefore, showed a decrease of about 300 tons.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Lead Situation

The current rate of lead production is estimated at 430,000 short tons annually, a slight decrease from the rate during recent months. Southeast Missouri is operating at about 70 per cent capacity. The strike at Park City, Utah, continued as also the controversy as to hours, wages, and recognition of the union in the Coeur d'Alene district which threatens serious future difficulties. The lead smelter production of Colorado is about normal. The Chihuahua smelter is closed down.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Horace F. Lunt, has been appointed Commissioner of Mines for Colorado, succeeding Fred Carroll, who recently resigned.

LABOR TROUBLES HARASS PRODUCERS OF COPPER

Both producers and consumers of copper ore are having labor troubles. This combination of circumstances bids fair to create a crisis in the industry. Reports from Butte and other districts show that trouble is expected.

The Mammoth Smelter at Kenneth, Cal., shut down in May because of labor difficulties.

The Bisbee, Arizona, section is slowly finding the skilled help of which a shortage was reported in May.

In the northern Michigan copper district during May, large numbers of men were discharged or quit and took positions with automobile concerns in Detroit, so that at present, when the copper companies are increasing their output on account of favorable copper prices, they find themselves short of men, and facing a difficult labor situation after July 1, when their labor contracts expire.

The Coeur d'Alene operators are hoping that the recent advance in wages will alleviate to some extent the serious labor shortage existing there, which has been so large a factor in accounting for the decreased output of the district. The labor unions have agitated for a closed shop and it appears that industrial peace is threatened. A federal mediator is investigating the situation.

The Park City district, Utah, has witnessed a modification of the extreme demands of the miners in their recent strike. Instead of a six-hour day and an increase of \$1 per day, they now ask an eight-hour day and a 75 cent increase.

At Grass Valley, Cal., a strike was called on June 13, and in combination with the scarcity of labor makes the situation anything but bright. Labor scarcity is attributed to the wages paid by the gold mining companies, for underground work, which are very little above that for surface work of other nature, such as highways and construction...

Northern Ontario's silver district is finding its labor troubles clearing. With the high price of silver and the high wages paid, the miners have little desire to strike.

Labor unrest in European countries is seriously affecting mining and the allied industries. England in particular seems to be affected by strike demands. Italy has a surplus of labor, but is hampered by serious strikes; while in France considerable agitation has centered around the eight-hour day law.—Excerpt from reports of mineral investigations of the Bureau of Mines.

Tin Ore Restrictions Removed

The War Trade Board Section of the Department of State announced that on or after July 14, 1919, all shipments of tin ore and tin concentrates may be imported under the authority of General Import License PBF-37, thus eliminating the necessity of securing individual import licenses to cover importations of these commodities.

NATIONAL LEGISLATION

At this writing, July 29, there have been introduced in the House and Senate 10,588 bills. The time of the Senate has been largely taken up in the discussion of the League of Nations, and both Houses have given much time to the large appropriation bills. No legislation of importance to the mining industry has received final action. The Smoot Leasing Bill, S. 1269, is still with the Senate Committee on Public Lands S. 1729, which permits minors over 18 years of age to make homestead or other public land entries, was reported to the Senate July 14, but no further action has been taken. The Soldiers' Land Bill is still before the House Public Lands Committee; numerous hearings have been held upon the Mondell Bill and it is expected that the committee will favorably report this bill at a very early date. Tariff matters are engrossing the House Ways and Means Committee, and hearings have been held on tungsten, zinc, magnesite, potash, graphite, and chemicals. Further tariff hearings before the committee have been postponed until after September 1, when arrangements are being made to hear manganese, antimony, molybdenum and pyrites. The committee has reported separate bills to the House covering potash, magnesite, tungsten, chemicals and dye stuffs, and it is expected that early action will be taken upon these. Hearings have been in progress before the Committee on Education and Labor in regard to the bill for the establishment of a permanent employment bureau in the Department of Labor. The bill met with strenuous opposition in committee. Hearings have closed and it is expected that the committee will shortly take action upon the bill. The bill for the suspension of the requirements for annual assessment work on mining claims is before the House Mines and Mining Committee. Hearings have been held, and it is expected that the committee will favorably report the bill to the House at an early date. The Esch Water Power Bill, H. R. 3184, has passed the House of Representatives and is now in the hands of the Senate Committee on Commerce. Senator Jones of Washington, who is chairman of this committee, has been out of the city for the past month but is expected to return August 1, when very early action upon the bill is promised. It is expected that this bill will very shortly become a law.

Other bills which have been reviewed in previous issues of the journal, such as the calling of a National Conference of Labor and Capital, transferring the Interior Department to a western state, creating a Department of Public Works, etc., are still in the hands of committees, no action having been taken upon them. The following bills of interest to the mining industry have been introduced:

Tariff

H. R. 7737: Introduced by Mr. Osborn, placing a tariff of 2 cents per pound upon beans, and 25 cents per bushel upon lentils.

Molybdenum—H. R. 7548: Introduced by Mr. Taylor. The bill provides a tariff of 40 cents per pound upon metallic molybdenum contained in crude molybdenum ores and concentrates. Upon all compounds containing molybdenum not specifically provided for in the bill, 70 cents per pound of molybdenum contained is provided. This latter class includes high-speed molybdenum steel and all alloys containing molybdenum.

Barytes—H. R. 7658: Introduced by Mr. Rhodes, providing for a tariff on all crude or manufactured barytes of \$10 per ton, on all manufactured barytes or barium sulphate a duty of \$15 per ton, and on barium carbonate a duty of \$20 per ton. A duty of \$20 per ton on barium sulphate and \$20, on each and every other barium compound. The bill shall go into effect 30 days after the date of its passage.

Wheat—H. R. 7122: Introduced by Mr. Young. The bill provides for the repeal of certain sections of the Tariff Act, and specifically provides for a tariff of 10 cents per bushel on wheat and 45 cents per barrel on flour and other wheat productions. It also provides for a duty of 25 per cent ad valorem upon potatoes.

Antimony—H. R. 7193: Introduced by Mr. McGlennon. The bill provides that upon the passage of the Act, in addition to duties provided for in the Tariff Act of October 3, 1917, there shall be levied a special duty of 10 cents per pound upon antimony salts and antimony sulphuret. The words "antimony sulphuret" apply to all mixtures or compounds containing precipitated antimony sulphide, precipitated antimony trisulphide, precipitated antimony pentasulphide, precipitated antimony oxy-sulphide.

Dye Stuff—H. R. 6495: Introduced by Mr. Longworth. Regulating the importation of coal tar products by providing for an import tax upon certain chemicals, and defining those which may be imported without such import tax. This bill is substantially the same as H. R. 2706 introduced by Mr. Longworth and reviewed in the July issue of the Journal.

Glass Ware—H. R. 7785: Introduced by Mr. Bacharach and referred to the Committee on Ways and Means, provides a duty upon glass-ware and porcelain wares, laboratory apparatus, etc., of 60 per cent ad valorem; upon all other kinds of optical glass 45 per cent ad valorem; upon surgical and dental instruments 10 per cent ad valorem.

Coal

S. Res. 126: Introduced by Mr. Frelinghuysen. This resolution provides that the Committee on Interstate Commerce or subcommittee thereof be instructed to make inquiry into the causes which have brought about the enormous increase in the market price of coal, and to that end to obtain full data regarding freight rates, wages, profits and other matters bearing upon the question under consideration, with a view to determining who or what may be responsible for such increase in price, whether due to economic causes, or whether due to manipulation or profiteering on the part of the miners, shippers, or dealers in coal. The committee is to report its findings to the Senate, with such recommendations as may be pertinent and advisable with a view to either Congressional or Executive action in order that existing conditions may be remedied.

H. Res. 183: Introduced by Mr. Huddleston, authorizing the Speaker of the House of Representatives to appoint a committee of five Representatives in Congress, who shall be charged with the duty to ascertain and report as to the origin, method and financiering of the propaganda which is said to now be carried on for the purpose of frightening consumers into the purchase of coal at present prices under the threat of a coal shortage and higher prices, such propaganda including representations of a shortage in labor, shortage in transportation facilities, and increased cost of production, etc. The committee is authorized to investigate as to the cause for the decrease in production of bituminous and anthracite coal during the present year, and whether such decrease in production is due in any measure to combinations among operators, controllers or owners of coal mines or sales agents or dealers in coal. They are authorized to investigate and find out whether the high prices being charged for coal are justifiable and to what extent such prices are affected by agreements or combinations among owners or operators of coal mines; to find out whether there is a shortage in coal and what may be done to avert same; to ascertain whether there is a combination or agreement, express or tacit, among the owners or operators of coal mines or agents or dealers in coal which affects the production, transportation or sale of coal.

H. R. 6990: Introduced by Mr. Langley. To establish a mine rescue station and an experiment station for analyzing and testing coals, lignite and mineral substances at or near Jenkins, Kentucky. \$50,000 is appropriated for the necessary buildings and equipment, etc.

H. R. 7006: Introduced by Mr. Huddleston. The bill provides that by reason of the recent existence of a state of war, and in order to secure an adequate supply of fuel at a reasonable price and to facilitate the movement of fuel to prevent scarcity, that the output of coal shall be regulated in the following manner: It shall be unlawful for any person not a retail dealer, actually delivering coal from yards, to sell directly or indirectly coal or coke in quantities in excess of 15 tons, at the maximum price which may have been fixed thereon by the President. It shall be unlawful for any producer of coal or coke, other than a retail dealer actually delivering same from yards, to refuse to sell or deliver coal or coke for the maximum price so fixed by the President. It shall be unlawful for any person to wilfully fail to operate his mine to its full capacity, when its product may be sold at the maximum price, or to unreasonably discriminate among persons who may desire to purchase same, or to agree with any person in any way to limit the output of a coal mine, to fix a price on coal, or to limit in any way the production, distribution, transportation or sale of coal. The act shall cease to be in effect at the expiration of five years from the date of termination of the war between United States and Germany. A fine of \$10,000 or imprisonment for not more than five years, or both, is provided for the violation of the provisions of the Act.

H. R. 7196: Introduced by Mr. Huddleston. This bill is exactly the same as H. R. 7006 introduced by Mr. Huddleston July 8.

Leasing

Oil—H. R. 7635: Introduced by Mr. Osborn, authorizing exploration for and disposition of oil and gas. The Bill authorizes the Secretary of Interior to issue to any qualified applicant a prospector's permit which shall give the exclusive right to prospect for oil or gas not to exceed 640 acres of public land. A cash payment of 25 cents per acres must accompany each application for a prospector's permit. No permit shall be granted upon land within 3 miles of land covered by an existing prospector's permit, or within 3 miles of land that had been included in another prospector's permit, until 6 months after its cancellation.

No permit shall be granted within $1\frac{1}{2}$ miles of a well producing oil or gas. The permittee is obliged to within one year drill to a depth of not less than 500 feet and at the end of the year upon payment of 10 cents per acre he shall be granted the exclusive right to prospect the land included in the permit for another year. During the second year, the permittee must drill a well or wells aggregating in depth not less than 1,500 feet, and thereafter he shall have the exclusive right to prospect from year to year upon the advance payment of 10 cents per acre for the land included in the permit. The bill provides for the payment of one-eighth royalty, the terms of the lease not requiring the payment of any cash rental. The same rules apply to persons or associations holding stock in oil companies, as

obtain in the oil provisions of the Oil Leasing Bill which is now before Congress.

Public Lands

Mining Schools—S. 2217: Introduced by Mr. Smoot. The bill provides that out of the proceeds of the sale of public lands there shall be appropriated the sum of \$5,000 for the fiscal year beginning June 1, 1912; \$10,000 for the year beginning June 1, 1913; \$15,000 for the year beginning June 1, 1914; \$20,000 for the year beginning June 1, 1915; \$25,000 for the year beginning June 1, 1916; and \$25,000 for each succeeding year, to each state and territory in the United States for the establishment and maintenance under the control of the Secretary of Interior, of a school or department of instruction in mines and mining. Those states already having schools of mines, etc., will receive the appropriation the same as those states which shall establish schools under the provisions of the Act. If there are two schools of mines in the state, the money shall be equally divided between such schools or departments. In the event that the state has no school of mines, a Department of Mines and Mining shall be established in connection with an agricultural college. In cases where there is no agricultural college, nor a school of mines, the Secretary of the Interior is empowered to designate some other institution controlled by the state or territory in connection with which the school of mines and mining shall be established. The money may be spent only for instruction, research, and experiments in mining, mining machinery, mining engineering, ore treatment, metallurgy, assaying, and chemistry, so far as these sciences relate to minerals and mining. They are to go thoroughly into the business of producing gold, silver, coal and other minerals, oil, gas and also concentrating, smelting, refining and marketing. They are especially to study the prevention of explosions and fires and other dangerous incidents. The bill carries certain regulations such as the annual reports and penalties for failure to faithfully carry out the regulations of the bill.

Land Settlement—S. 2204: Introduced by Mr. Sheppard. Providing for a federal land settlement and homestead commission. The bill authorizes the Secretaries of Interior, Agriculture and Labor to study the question of land settlement in the United States. The commission shall complete its labors and make final report to Congress within one year from the date of the passage of the bill. They shall particularly ascertain the methods and results of unregulated private settlement; need for more favorable financial terms of purchase by tenants and others desiring to become home owners; the feasibility and value of adopting in this country some of the land settlement and home-loan policies of other countries; feasibility and value of cooperation between state and federal authorities in aiding the people to acquire homes; and for the creation of settlements in which community as well as individual needs are cared for; methods of regu-

lating land speculation, of preventing concentration of land ownership, and kindred evils.

Withdrawals—H. R. 6993: Introduced by Mr. Hernandez. This bill makes available for entry temporarily withdrawn lands in New Mexico which are specifically described and makes them available for location for non-metalliferous minerals, including oil and gas, but excluding coal. In the case where patents have been issued upon any of the lands prior to their full restoration from Executive orders, based upon locations for metalliferous minerals, all coal in such lands shall be reserved to the United States. All non-metalliferous minerals located prior to the taking effect of the Act, which would be in force except for previous withdrawals, are allowed the same force and validity as if such Executive order had not been issued, but the patent thereon shall be granted with the reservation of coal as above specified.

Coal—H. R. 186: Introduced by Mr. Taylor. The bill directs and authorizes the Secretary of the Interior to patent lands of the United States classified as coal lands, within any State or Territory, to any city or incorporated town therein as a source of coal supply for the use of such city or town and for the use of the inhabitants and industries thereof. Each patent is to include not to exceed 640 acres for each city and 160 acres for each town. The Secretary of the Interior is authorized to make rules and regulations concerning the development of the coal, the prevention of assignment or transfer of the land, prevention of waste, and the securing of annual reports as to the mining and disposal of the coal mined under the patent. If any such town or city, to which coal lands shall be patented under the act, shall wilfully neglect to perform any of the conditions of the patent, the land patented to such city or town may revert to the Government of the United States.

Monroe Doctrine

H. J. Res. 143: Introduced by Mr. MacGregor. Defining the Monroe Doctrine as follows:

First. That the American continents, by the free and independent position which they have assumed and do maintain, are henceforth not to be considered as subject for future colonization by any European or other power; and the United States will consider any attempt on their part to extend the monarchical system of government to any portion of this hemisphere as dangerous to its peace and safety.

Second. That hereafter no territory on the American continents shall be regarded as subject to transfer to any European or other foreign power (General Grant's addition to Monroe Doctrine, message May 31, 1870).

Third. That with the existing colonies or dependencies of an European power the United States has not interfered, save on just principles, and henceforth will not interfere except on the same principles.

Fourth. That with the internal affairs of any

foreign state, except when the rights of its own citizens are involved, the United States has no concern, desiring peace, friendship, profitable trade with all nations, entangling alliances with none.

Fifth. That any interposition by an European or other power for the purpose of oppressing or in any other manner controlling either the destinies of those republican governments of the Western Hemisphere which have declared their independence and maintained it, and whose independence the United States, on great consideration and on just principles, has acknowledged; or the destinies of such other republican governments in any part of the world which the United States has been or may become instrumental in establishing, cannot be viewed in any light but as the manifestation of an unfriendly disposition toward the United States.

Section 2. That this resolution shall take effect immediately.

Reduction in Railroad Rates for Conventions, Etc.

H. R. 7348: Introduced by Mr. Black. The bill authorizes the Director General of Railroads to grant reduced rates over railroads under federal control, of one and one-third fare for round trip to passengers attending conventions, meetings, or congresses of religious, charitable and other organizations or associations.

Export

H. R. 7204: Introduced by Mr. Dyer. The bill provides that any number of persons not less than three, the majority of whom are citizens of the United States, desiring to become incorporated for the purpose of foreign trade, shall subscribe and acknowledge articles of incorporation which must contain the name of the corporation, which shall end with the legend "Federal Inc., U. S. A.," shall be filed with the Secretary of Commerce and shall make annually a statement of its financial condition and file same with the Secretary of Commerce. Section 68 provides that corporations created under this act shall be exempt of any federal tax of any nature whatever, except the fees for filing the articles of incorporation and such other fees as may be prescribed by the Secretary of Commerce under the provisions of the Act.

Public Improvements

H. R. 7009: Introduced by Mr. Sherwood. The bill provides that when any state, territory, county, township, district or municipality shall deem it necessary to make any public improvement, it may deposit with the Secretary of the Treasury a noninterest bearing 25 year bond in any amount up to but not to exceed one-half of the assessed valuation of the real property exclusive of improvements thereon. Upon compliance with the foregoing, the Secretary of the Treasury shall have engraved and printed Treasury notes in denominations of \$1, \$2, \$5, \$10, \$20, \$25, \$50, \$100, and \$500 each, which shall be full legal tender for all debts, public

and private, debts and dues of and due the United States to the face value of such bond or bonds, and to deliver to such state, territory, county, etc., 99 per cent of such notes and retain 1 per cent for expense of labor, material, engraving, etc. Communities depositing such bonds in accordance with this Act are required to return to Secretary of the Treasury the principal of such bonds in legal tender Treasury notes, at the rate of 4 per cent per annum from the date of issue until such bonds have been paid in full.

Labor

Housing and Living Conditions—H. R. 7014: Introduced by Mr. Tinkham. The bill creates in the Department of Labor a Director of Housing and Living Conditions for the purpose of increasing the productive capacity and well-being of workers and for promoting good citizenship. It authorizes the Labor Department through the director to investigate the housing and living conditions of the industrial population, to conduct research and experimentation looking toward the provision and publication of such information as will make economically practicable the elimination of slums, the improvement of living conditions, the reduction in the cost of dwellings, the financing of home-building operations, the assisting of communities during the present housing shortage in making available to the utmost extent all existing housing facilities, and to serve as a clearing house of information on housing and living conditions. This bill is practically a continuation of the U. S. Housing Corporation of the Emergency Fleet Corporation. All collection of plans, books, pamphlets, reports, and other material gathered by the U. S. Housing Corporation are to be transferred to this bureau. A director of the Bureau of Housing and Living Conditions is appointed with a salary of \$6,000 per year, and an assistant director with a salary of \$3,000 per year. \$250,000 is appropriated for the carrying out of the purposes of the Act.

Experimental Projects—H. R. 6904: Introduced by Mr. Mason. This bill appropriates \$800,000,000, to be expended by the Secretary of the Interior under the direction of the President, and provides for the employment of demobilized soldiers, sailors, etc. The bill is very similar to the bills introduced by Mr. Kelly, previously reviewed in the JOURNAL, and provides for post roads, an experimental farm, mine and water power development. The bill provides also for the making of loans, in this instance, not to exceed \$800, at any one time, and providing rules and regulations for the carrying out of the Act. This bill, however, provides for no board as do the Kelly bills, the work coming directly under the direction of the Secretary of the Interior.

Soldiers' Land Bill—H. R. 7004: Introduced by Mr. Kelly. The purpose of the bill is to provide employment and rural homes for discharged soldiers and sailors and is

similar to the bill introduced by him, H. R. 5993, a résumé of which is found in the July issue of this publication. It differs, however, in the fact that it appropriates \$500,000,000 and shall be known as the "Soldiers' Land Bill." The bill discussed last month vests the power in the President of the United States. This bill is controlled by a board consisting of the Secretaries of Interior, Agriculture and Labor, which board shall act under the general supervision of the President and through a director who shall be known as the Director of "National Soldier Settlement," who shall hold office for an indefinite period under the Civil Service statutes and receive a salary of \$7,500 per year. The bill provides for the organization of a United States Construction Service and defines the standards of labor for the Construction Service, basing the working day at not to exceed eight hours and defines overtime at a wage of 50 per cent increase of the hourly wage. The board is authorized to make all rules and regulations for the safety of the workers and for just and reasonable compensation to any worker who may be injured or killed, a system of workers' insurance, etc. It has also the post roads provision; provides for the experimental farm, the experimental mine, coal and mineral,—for lumber operations, and water power development.

Alaska

S. 2502: Introduced by Mr. New, amending the Act of March 12, 1914, authorizing the President to locate, construct, and operate railroads in Alaska, by providing that in order to complete the railroad on or before December 31, 1922, between Seward and Fairbanks, the additional sum of \$17,000,000 is appropriated to be immediately and continuously available until expended.

Industrial Relations

National Conference Labor and Capital—H. R. Res. 152: Introduced by Mr. Britten. The bill authorizes and directs the President to call a national conference at a place to be designated by him, and to be composed of persons selected by various industrial association, associations of commerce, banking associations, and labor organizations from all parts of the United States, and such other persons as the President may name, equally divided among leading representatives of labor and capital. The duty of the conference shall be to consider, with a view to the permanent solution of the industrial situation, such problems as may be presented to it relating to permanent relations of capital, labor, industrial management, adjustment of wages, settlement of industrial disputes, promoting improved conditions, etc. The conference shall consider the question of state and national legislation which may be practicable and feasible, looking toward the beneficial conduct of the nation's industries and the promotion of the welfare of its citizens.

Annual Assessment Work

S. J. Res. 64: Introduced by Mr. Smith of Arizona. To suspend the requirements of annual assessment work on mining claims during the year 1919. This bill is identical with previous bills introduced for this purpose.

S. J. Res. 65: Introduced by Mr. Smith of Arizona. This bill specifically relieves soldiers and sailors, who are serving with the army during the war with Germany, from payment or doing annual assessment work on their claims. The same rules as to the filing of notice obtain in this bill as in the bills previously reviewed.

Seat of Government

H. R. 7114: Introduced by Mr. Campbell. The Act provides that upon the passage of the bill it shall be unlawful for the President of the United States, during the term of his office, to absent himself from the territorial jurisdiction of the United States, or to perform the duties of his office at any other place than at the seat of government.

Trade Relations

H. R. 7753: Introduced by Mr. Smith of Michigan, repealing the Act to promote reciprocal trade relations with the Dominion of Canada. Upon passage of the bill, the Act of July 26, 1911, will be void.

Anti-Trust Laws

Exempting Labor Organizations—H. R. 7784: Introduced by Mr. Barbour and referred to the Committee on the Judiciary. This bill amends Section 6 of the Act of October 15, 1914, entitled "An Act to supplement existing laws against unlawful restraints and monopolies," by providing that the labor of human beings is not a commodity or article of commerce, and that nothing contained in the antitrust laws shall be construed to forbid the existence and operation of labor, agricultural or horticultural organizations, etc., instituted for the purposes of mutual help and that pay annually no greater dividends on stock or membership capital investment than 8 per centum, nor shall such organizations, or the members thereof be construed as illegal combinations or conspiracies in restraint of trade. Associations with or without capital stock, of farmers, horticulturists, planters, ranchmen, etc., engaged in making collective sales for their members or shareholders, are not combinations or conspiracies in restraint of trade. Contracts, agreements, arrangements or combinations made by such associations or the members in making such collective sales and prescribing the terms and conditions thereof, are not combinations in restraint of trade, nor are they combinations or conspiracies to monopolize any part of trade or commerce.

H. R. 7783: Introduced by Mr. Hersman and referred to the Committee on the Judiciary. This bill is identical with the bill introduced by Mr. Barbour, reviewed in these columns.

Leasing

Non-metalliferous Minerals—S. 2618: Introduced by Mr. Lenroot and referred to the Committee on Public Lands. This bill provides that all entries hereafter initiated under the non-mineral land laws of the United States, shall constitute only rights in the land covered thereby, exclusive of the non-metalliferous mineral deposits reserving to the United States the right to prospect and mine such minerals, and to use so much of the surface of the land as may be necessary therefor. The expression "nonmetalliferous minerals" as used in the Act, includes oil, oil shale, gas, coal, phosphate, sodiums, salt, potassium, and asphalt. The nonmetalliferous entryman is allowed to develop and produce on his own land, any non-metalliferous minerals, unless same are leased to another under applicable laws and thereafter may develop, produce and use the same on his own land, provided he shall not interfere with the permittee.

Coal—S. 2620: Introduced by Mr. Lenroot and referred to the Committee on Public Lands. The bill provides for the leasing of coal lands including lignite owned by the United States, outside of Alaska. The Secretary of Interior is authorized to issue a prospecting permit to any citizen of the United States above the age of 21 years, which shall give the permittee the exclusive right for a period not to exceed two years to prospect for coal upon not to exceed 2560 acres, and upon conditions that the permittee will begin prospecting by drilling or otherwise, within 6 months from the date of the permit and continue prospecting diligently. The Secretary of Interior if he shall find that the permittee has exercised diligently in prospecting, has the power to extend the permit for further periods from time to time of not exceeding one year at any one time. Upon establishing to the satisfaction of the Secretary of Interior that valuable deposits of coal have been discovered, the permittee shall be given a preference right to lease the coal deposits at the rate of royalty and rentals provided in the bill. The Secretary of Interior is authorized to divide the land into leasing tracts of 40 acres, and to fix a rental per acre to be paid for any such leasing tract and thereafter by advertisement invite competitive sealed bids as to royalty for the leasing of same, subject to such fixed rental per acre. Upon receiving bids, the Secretary of Interior may award the lease to the highest responsible bidder or may reject any or all of the bids. If he rejects all bids or no bids were made, he may at a later time offer such leasing tracts to competitive bidding and may thereafter lease such tracts to any qualified lessee for the highest royalty obtainable. If the leasing tract in question is composed of coal deposits discovered by a permittee, the permittee

shall have a preference right to receive a lease under the terms and conditions prescribed in the Act, subject to 80 per cent of the royalties and rentals which would have been required from a lessee who was not the permittee for the leasing tract, or if no competitive or bona fide bids have been received, the Secretary shall lease the tract in question to the permittee at royalties and rentals mutually agreed upon between the Secretary and the permittee, in no case however, for less than 80 per cent of the minimum royalties and rentals prescribed by this Act for other than permittees. In the case of lignite or low grade coal the Secretary may grant leases with preference to permittees, by such other method as he may by general regulations adopt. The Bill provides that except in cases of a lease to a permittee, no lease shall be made for a royalty of less than 2 cents per ton of two thousand pounds. No company or corporation operating a railroad shall be allowed to hold lease except for its own use for railroad purposes. For the privilege of mining or extracting the coal in the lands, the lessee shall pay to the United States royalties as provided above, which royalties shall be due and payable at the end of each third month and the lessee shall also be charged a rental due at the end of the first calendar year after the date of the lease and annually thereafter, which shall not be less than at the rate of 25 cents per acre for the first year, 50 cents for the second, third, fourth and fifth years, and \$1 per acre for each year thereafter during the continuance of the lease. Leases shall be for indeterminate periods upon conditions of diligent development and continued operation of the mines, except when such operation shall be interrupted by strikes, or causes beyond the control of the lessee and upon further condition that at the end of each 20 year period such readjustment of terms may be made as the Secretary of Interior may determine. In order to provide for the supply of strictly local domestic needs for fuel, the Secretary of the Interior may issue limited licenses or permits to individuals or associations of individuals to prospect for, mine and take for their own use coal from the public lands without any payment of royalty for the coal mined or the land occupied, except the damages to claimants. This privilege is not extended to any corporation. In the case of municipalities the Secretary of the Interior may issue limited permits not to exceed 160 acres upon condition that the municipality will mine the coal therein under proper conditions and dispose of the same without profit.

Phosphate—S. 2619: Introduced by Mr. Lenroot and referred to the Committee on Public Lands. The bill provides for the leasing of sodium and deposits of phosphate owned by the United States, except sodium in San Bernardino County, California. The regulations surrounding the prospecting for phosphates are identical with the rules surrounding the prospecting for coal lands outlined in S. 2620 introduced by Mr. Lenroot, reviewed in these columns. It provides for the prospector's permit and royalties to be fixed by the Secretary of Interior.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

WE WONDER

We Wonder if—

President Wilson really thought he could pass the railroad wage demand over to Congress without anybody getting next to the fact that somebody was trying to pass something?

the 5,500,000 would be absolutely satisfied if they did manage to elect an entirely new Congress?

two per cent, backed by 5 per cent, is a majority of votes in a nation of 100 per cent Americans?

Mr. Jewell knew that his "tie 'em up" interview was loaded?

the fellow who looked down the loaded gun barrel will look down the same barrel with the other eye?

A TARIFF POLICY

It will perhaps not be amiss to again state the position of the American Mining Congress as it relates to a protective tariff duty upon minerals.

The American Mining Congress is not a partisan organization. It is made up of members of both political parties. A high protective tariff is a republican principle, and a tariff for revenue only is a democratic principle.

The American Mining Congress is not an advocate of the principle of protective tariff. But it does insist that, if the principle of protection is to apply to every other line of business, the mining

industry should be granted equal protection. If the miner must buy his labor, his machinery, and his supplies in a protected market, he must also have a protected market in which to sell his products.

It therefore becomes the duty of this organization to see that the Congress of the United States is furnished with all available information concerning the resources and the cost of production of our home product as compared with the production in other countries. The Mining Congress would not knowingly take any step which would estrange any of its members who have allied themselves with the party which stands against the principle of a protective tariff, but so long as a protection policy is to prevail it insists that the mining industry shall have its share.

RADICAL CONSERVATISM

Labor conditions of the world have been undergoing a very radical change during recent years. There has been a great moderation of the views of employers toward organized labor, and upon the other hand the more intelligent members of organized labor are giving more recognition to the rights of capital. Employers who have been developing greater respect for the American Federation of Labor have been rudely shocked by the radical position taken by the Federation as applied to the jurisdiction of our courts of justice.

In a recent communication Mr. Taft uses the following language:

The business men of this country cannot be told too often that the proper course for them to pursue, and a conserving, patriotic course, is in friendship for the labor unions under the leadership of the A. F. of L. Failure to recognize the power of conservative, patriotic labor unionism and to express sympathy with it and a willingness to classify its leaders as associates with the I. W. W.-ism, extreme socialism and Bolshevism, weakens the power of those leaders with their fellows and tends to throw the whole labor movement under the control of the lawless extremists.

Shortly after the writing of this article by Mr. Taft, the American Federation of Labor met in convention at Atlantic City, from which the following doctrine emanated:

The power of our courts to declare legislation enacted unconstitutional and void is a most flagrant usurpation of power and authority and is a repudiation and denial of the principle of self-government recognized now as a world doctrine. The continued exercise of this unwarranted power is a blasphemy on the rights and claims of free men of America.

This is in effect a declaration that the Constitution of the United States shall be ignored and that legislative bodies shall be permitted without constitutional restriction to put into effect any law which popular demand or selfish motive might dictate. It demands the taking of a big, long step toward mob rule. Even though mob action has sometimes been both effective and just, it does not follow that courts should be abolished. The framers of the Constitution of the United States very wisely provided safeguards against hasty conclusions affecting the liberty of the individual, and gave the power to change that Constitution by well-defined processes requiring so much time as to prevent that hasty action which most frequently leads to injustice. Any organized movement which undertakes to ignore that Constitution, and to say that the public sentiment of the particular day shall be the controlling factor in public affairs, is reaching away from democratic government and groping blindly toward the day of mob rule, from which neither justice nor mercy can be expected.

LOW COMEDY IN HIGH PLACES

We all felt a pang of regret at the passing of George H. Primrose. We felt the last of the minstrels was gone, but we may take heart. We are to be further amused—Claude Kitchin is still with us.

The bill for a tariff on tungsten came before the House the afternoon of August 19, at which time Mr. Kitchin put on an exceedingly interesting entertainment. Having neither arguments nor anything on which to base arguments, he took refuge in supposed humor, and, considering that he had neither facts nor information on his side, did pretty well. If George Cohan would only teach him a few steps of fancy dancing the illusion of a minstrel show would be complete.

As an entertainment it was amusing, especially for his side of the House, but it is doubtful if it is one that either the country or Mr. Kitchin's own party can afford. The tariff to Mr. Kitchin is not an economic question, but a question of whose interests are involved. When some farmers in North Carolina began experimenting in tea culture, was it not Mr. Kitchin who suggested to the Ways and Means Committee that tea be immediately put under a high protective tariff?

As a tariff expert and metallurgist, Mr. Kitchin showed himself to be one of the most intelligent cotton farmers in North Carolina.

LABOR AND PUBLIC CONFIDENCE

"There are sixty-five strikes on in this city today," said a prominent St. Louis business man to the writer a few days ago. "Of course," he continued, "all of them are unimportant in a way, but each has a connection with some line of industrial movement in the city and state. Beyond our city limits lie the coal fields with the so-called unauthorized strike tying up production, and across the river an otherwise prosperous city, East St. Louis, is suffering from a tramway strike. Collectively, the situation is cost-

ing, industry its normal profits, labor its wages, and the market much-needed production, but the general public, which is as usual the innocent bystander, is getting weary of being the one to pay the bill."

National labor leaders decry "radicalism" and repudiate unauthorized strikes. But the strikes occur—in St. Louis, in Boston, in New York, in Chicago, in every other city, with uncanny regularity and without regard to public or private interest. Contracts and understandings are shoved aside with the same easy manner assumed by Germany when she repudiated international agreements in violating Belgium. Industry is harried and uncertain economic conditions are created. Nobody is to blame. Everybody is to blame. The "little" strikes mean nothing. Collectively, however, they mean much.

A prominent writer on a national labor journal said to the writer not long ago: "There will come a time when mine operators will be glad to deal with the Federation. It will be better business for them to have *something to tie to for stabilization of labor conditions.*"

We have said that "little" strikes are making for uncertain economic conditions. Also, they slow down production.

What the United States needs today more than any other one thing is not higher wages, not less hours for labor, not "rights for laboring men," but just plain, honest efficiency in production. Under-production, under the law of supply and demand, makes for rising prices. High costs in production make for advancing retail prices. Of course there are other things, and the writer agrees that dishonest profits—for there is such a thing—have a part in the scheme of price raising, *but 100 per cent production* will soon bring things to a level and other evils will be erased through natural economic laws.

Every strike, small or large, local or national, authorized or unauthorized, serves to block business just in proportion to the associated industries dependent upon the workers. It robs the worker of just so much money which he could earn honestly and destroys just

a bit more confidence which the employer probably had in organized labor. So far as the public is concerned, it loses not alone confidence, but respect, in its attitude toward labor. Therefore what is happening in St. Louis, in Chicago, and in every other city tends to destroy the national fellowship which should exist if we are to have a united people.

Labor cannot really afford to lose public confidence. Samuel Gompers, master-mind of organized labor and dictator of the Government's labor policy, knows this better than any other living man, and he endeavors to control and hold the radicals in leash, but his lieutenants are often repudiated—seemingly—and strikes occur.

It is not impossible that some "radical" friends of the program of industrial renovation are watching with keen pleasure the sporadic little strikes which tend to harass business until in desperation it will seek some organized method of clarifying the industrial air.

Thus the "sixty-five little strikes" here and there seem to have an uncanny connection with the general scheme of "testing the public temper" to see whether it is a good and patient public and how long it will stay hitched. One might wish to believe that the American Federation of Labor is doing its best to prevent local issues arising to annoy employers, but one is forced to admit that it does not enter open and serious protest to these conditions, and while strikers are sometimes "ordered" back to their work it is always and unequivocally upon promises that there will be an "early and satisfactory settlement" of the points in dispute.

TARIFF ON WAR MINERALS

A year ago the whole mineral industry of this country was engaged in a mad scramble to produce enough war minerals to supply even our most urgent needs. It has been generally recognized that the nation ought not to be caught in such an emergency again.

Tariff protection on raw materials in the form of natural resources, and particularly natural resources of a diminishing

ing character, is emphatically a new problem. The necessity for such tariffs was shown to the country in the bald facts of our utter lack of development which stood out so vividly in the white light of the war.

Tariff on war minerals has become necessary and advisable for two reasons: First and most important, a national security demands that we must, in time of peace, build up the industries which are to sustain us in time of emergency. Second, the economic relation of mining to other industries makes it necessary that the miner buy his equipment, his supplies and his labor in a protected market. If he has to do this, he must sell his product in a protected market, and while ore, as it comes from the mine, is the raw material of other industries, it is the miners' finished product, and on this finished product, where necessary, he must have tariff protection which will place his operations on a fair competition basis.

On another page of this issue is a table showing the status of the various bills for mineral tariffs which have been introduced into both houses of Congress during the present session.

THE PLUMB PLAN

The endorsement of the Plumb plan for the nationalization of the railroads and the inferential approval of the nationalization of all industries based upon public consent and natural resources will not tend to strengthen the A. F. of L. with many parties who have hoped to cooperate with it as the conservative element in the labor world.

Transportation is the basis and life blood of our civilization. It would seem very dangerous to put the transportation systems of the country under the absolute control of organized labor, one branch of which has declared itself willing to cut off the supply of food to the cities in order to force its demands, as was threatened in order to induce Congress to pass the Adamson law.

If the conservative element of labor is to demand the right to control the very existence of the people, if it is to de-

mand that the Constitution is to be set at naught and that the whim of the populace shall be the only rule of action and the only protection to the rights of the individual, it would seem that the conservative element of labor is losing its bearings.

THE DANGER OF INCREASING PROFITS

President Wilson's notice to the railroad shopmen that every increase of wages is a step toward higher prices, and his request for delay until the efforts to reduce the cost of living could make the present wage scale adequate, are to be commended. It is hoped that the shopmen will be willing to accept this suggestion.

It is unfortunate that other railroad employes who have, in the recent past, received substantial advances in their wages, are also intending to demand higher wages. In the meantime, street car companies are quite generally demanding an increase in street car fares, and business generally is adding to the difficulties by insisting upon profits based on percentages of cost.

The MINING CONGRESS JOURNAL has frequently expressed the hope that the readjustment of business conditions in this country to price levels approximating the pre-war period might be accomplished through intelligent foresight rather than through the disastrous logic of an industrial panic.

Business men should do business with little or no profit until conditions may be readjusted. This should particularly apply to public service corporations. When a 5-cent fare created a generous profit, street car companies filled the air with protests, because of every effort of the public looking to a lower rate.

This is a time when all business organizations should stand as a unit against advancing prices. Wages cannot be reduced without suffering and want, except as the price of life necessities is reduced. Wages constitute approximately 70 per cent of the cost of production. The problem of wages and living cost is an endless chain, well illuminated by the statement of the youth who explained

his dissatisfaction with life by stating that he had to "work, work, work, to get money to buy clothes to work in, to get more money to buy more clothes to work in some more."

What is required is an increase in production; with plenty of goods in the market, prices will quickly recede. With a recession of the cost of living, wages can be lowered, or at least present wages will be adequate, but while this increase in production is being made we urge upon business generally to take its loss, hold its organization, and rely upon future conditions to make the profit which, if taken now, will but accentuate the difficulties of the readjustment problems.

RULE OR RUIN

Roughly speaking, 90 per cent of the population of the United States does not belong to labor unions, is not employed in vocational work which demands or allows unionizing and is not interested in the union movement, and yet so strong is the belief of the American Federation of Labor in its dominating power that Acting President Jewell of the railroad brotherhoods threatened openly, in the capital of the United States, to "tie the railroads up so hard that they will never run again" unless Congress swallowed the whole Federation program, including, of course, the increase of wages asked by the two million railroad employes and the adoption of the "Plumb Plan" by which labor would absolutely control the transportation of the nation. And Mr. Jewell showed that he thought he knew whereof he spoke, for within twenty-four hours one of his associates, no less a person than Frank Morrison, astute and clever secretary of the American Federation of Labor, close associate of Samuel Gompers, told the Congressional committee that while the Federation is not a political party, its fixed policy is to "elect our friends and defeat our enemies." Mr. Morrison then called attention to the fact that there are about 4,700,000 members of the Federation now enrolled—an increase of 1,000,000 during the past year.

Thus, 2 per cent of the population threatens that the business of the nation will be paralyzed unless its expressed wishes are granted, and it is backed by the veiled threat that an added 3 per cent will join the brotherhoods in an effort to send members of Congress who refuse to bow the knee in submission back to their home towns to wear the honorable decoration of Private Citizen.

The leaders who threatened to tie up the arteries of the nation unless the labor program was swallowed by Congress openly boasted that they dared to make their assertion because they were organized. In England, where the government has granted part of the program demanded by the laborites, the nation was in such dire distress for fuel that it appeared to be the only way of preserving peace and securing fuel for a war-torn nation. Business in England was poorly organized, and, while there were academic defenses made of the rights of industry, the threat of fireless furnaces, of cold homes, of general commercial stagnation, forced a government, unsupported by efficiently organized business, to capitulate to the extent of agreeing to purchase the leased coal mines of England, give the workers a share in management and establish a fund for betterment of living and working conditions.

And the writer reflects upon the history of the past two years: The Adamson law (or a nation-wide strike); the sympathetic and unnatural forcing of wage scales beyond the wildest dreams of a labor "radical" under stress of necessary war production; the demand for a billion and a quarter more wages from the already overloaded railroads; the threatened enforcement of that demand through a pending strike; the demand for the operation of the railroads under labor control; the expressed and openly understood plan of the American Federation of Labor for the nationalization not alone of railroads but of telephone and telegraph lines; the pronouncement of the United Mine Workers for nationalization of coal mines and a six-hour day—a program endorsed by the Federation—and he finds food for reflection.

He wonders, as he watches the attempted forcing of a national strike in the steel industry for the sole purpose of securing recognition of the union, at a time when every American citizen should be pulling in harness, just how the man who offered his life to his country and fought the Germans and vermin for eighteen months at one dollar per day, while the "home army" fought out the hour and wage problem, looks at it.

It might be interesting to know.

COMMERCIAL HELIUM

To the Bureau of Mines of the United States belongs the credit for having developed the most wonderful chemical composition, resulting from war investigation—wonderful, because the latest in non-explosive gases for use in lighter-than-air craft and acceptable to the world because it is a constructive rather than a destructive substance.

When Janssen made the discovery that among the gases escaping from the sun was a distinct and peculiar composition at that time unknown to chemistry, he little dreamed that he had started a trend of thought that would eventually revolutionize air transportation. For lack of a better name the chemical, or gas, was called "helium," from the Greek word "Helios," meaning "sun."

Janssen's investigations were followed up by Dr. W. F. Hillebrand, of the United States Geological Survey, and later by Sir Wm. Ramsey, a noted British chemist. These investigations resulted in the discovery that certain of the earth's substances contained a gas which came to be known as "helium." No progress, however, was made in the development of this gas, except to satisfy the curiosity of the chemists.

It fell to the lot of Director Manning, of the Bureau of Mines, to direct the attention of Dr. F. G. Cottrell, now assistant director of the bureau, to a new process for air separation that embodied novel features, and which it was thought might, if closely followed up, result in the commercial production of oxygen for use in furnaces.

The process had been discovered by a

graduate of the Massachusetts Institute of Technology, Fred E. Norton, an engineer of wide experience, who in connection with E. A. U. Jefferies had patented and then controlled what was known as the Jefferies-Norton process.

Sir Wm. Ramsey was at the time working on the helium problem for Great Britain and had found that certain coal gases contained a very small percentage of helium. He had not, however, succeeded in establishing any method by which helium could be produced for practical use.

Dr. H. P. Cady had, many years before, found that the natural gas of Kansas contained some strange composition, first noted by Janssen in the sun, and had followed up his discoveries by establishing the fact that the natural gases of Kansas might eventually be made to produce a quantity of this rare substance.

Dr. R. B. Moore, of the Bureau of Mines, who had been collaborating with Sir Wm. Ramsey in the British investigations, chanced to attend a meeting of the American Chemical Society in Kansas City in 1917, when the work of Dr. Cady of Kansas was publicly discussed by Dr. C. W. Seibel. Dr. C. L. Parsons, the chief chemist of the Bureau of Mines, was also present, and within a few days, as a result of the various lines of discovery and discussion of the same, the director of the Bureau of Mines had charged G. A. Burrell, in charge of the bureau's work, with the important duty of analyzing the natural gas fields of the United States, and had equipped Colonel Burrell with sufficient force to complete this work in the least possible time.

It happened that Mr. Burrell was aware that at Petrolia, Tex., there had been found a gas field containing a considerable quantity of helium. Then began the race between the British chemical warfare department in the Canadian fields and the American Bureau of Mines with the Kansas fields for the first establishment of a commercial helium, with quick and inexpensive production.

The result has been a development:

which will revolutionize and make safe balloon, "blimp" and Zeppelin transportation.

Helium is a non-explosive gas, which can be used pure or in composition with hydrogen, has great lifting power, and is the nearest approximation to an ideal gas. The buoyancy, the chemical inertness and non-explosive features of this wonderful substance, which has heretofore been wasted by all the world, makes this work of the Bureau of Mines of prime importance to aeronautics, and, through aeronautics, of importance to all industry as well as to warfare, and is only one of the long list of accomplishments to be credited to the Bureau of Mines during the past few years of its existence.

It is now shown that helium, which at first was looked upon as a scientific curiosity and which cost from \$1,500 to \$2,000 per cubic foot, can be produced upon a commercial basis in large quantities, and it only remains for the Congress of the United States to place at the disposal of the Secretary of the Interior appropriations sufficiently liberal for the building of necessary plants in order to insure the supremacy of the United States in lighter-than-air communication.

A "CLOSE-UP" VIEW

The western tour of Dr. Van H. Manning, Director of the Bureau of Mines, which has carried the director into the midst of many of the most important mining and petroleum sections of the western states, will no doubt result in a more comprehensive policy to be hereafter maintained in certain divisions of the bureau's work.

Dr. Manning believes in a practical and constructive policy in his department, and no bureau of the Department of the Interior has wider scope for its constructive work than has that entrusted to his care.

The Bureau of Mines has many times returned to the nation the expense of its maintenance, and has to a large extent revolutionized many phases of production and the development of by-

products. Surrounded by a most excellent and thoroughly loyal corps of highly trained men, the Director of the Bureau of Mines has succeeded in building up an institution second to none in the world. The rapidity of the growth of the bureau has, however, made necessary a very close personal application of the director's time. And very naturally, while a great work has been accomplished, the director's contact with the problems confronting the mining industry has of necessity been through his field associates rather than of a personal nature.

The determination of Director Manning to see for himself and to make a first-hand study of these conditions was, we believe, a most wise and profitable one. He has been able to hear and consider the expressions of the mining operators, surrounded by local atmosphere. He has been able to review the oil fields and know the local problems and compare them with the national.

And of more value than all of this, from the standpoint of the west, has been the opportunity for the establishment of personal relations between the director and hundreds of operators in the west who have been prone at times to consider that the Bureau of Mines was "an organization of technicians and scientists"—and so far removed from a sympathetic contact with the industry itself that it had little right to the friendship of the rank and file of mining operators, large or small.

Those who are closely in touch with Dr. Manning and the Bureau of Mines are well pleased that the director has taken the time to secure a "close-up" view of the western situation. THE MINING CONGRESS JOURNAL suggests that an annual or semi-annual tour of the mining districts of the country, if personally made by the Director of Mines in a spirit of investigation and co-operation, would add immensely to the already splendid accomplishments of that bureau.

TUNGSTEN WINS

Tungsten won the first victory for protection on war minerals on August 21.

when the Timberlake tungsten bill, providing for \$10 per unit of tungsten content in raw ore and \$1 per pound of metallic content in products and alloys, passed the House with a vote of 173 for the bill and 121 against it.

Introduced and fostered by the Hon. Charles B. Timberlake of Colorado, this bill marks a new era for the producers of war minerals.

This bill was bitterly fought on the floor of the House by its opponents, no less than six different amendments being proposed, the adoption of any one of which would have nullified the entire effect of the bill. One whole day was consumed in defeating these various amendments.

While the bill has yet to pass the Senate and be signed by the President, its passage in the House is a most signal victory for all mining interests seeking such protection, where it blazes the trail for future legislation of this kind and establishes a new precedent for protective tariff.

It is regrettable, however, that the opponents of this bill drew party lines so strictly in endeavoring to make a political issue of what is such a serious national problem. It is safe to say that not one man who opposed this bill would have opposed any measure to advance tungsten production during time of war. Yet is it not as culpable to oppose this legislation which will protect this industry in time of peace, so that it will be in readiness in case of national emergency? As a measure for true preparedness, such bills as this should have the support of every patriotic citizen.

LABOR MATHEMATICS

It begins to look like this:

$$\begin{aligned} & - \text{hours} + \text{more } \$\$ - \text{more hours} \\ & + \text{more } \$\$ - \text{more hours} + \text{more } \$\$ \\ & = 0 \end{aligned}$$

SENATOR THOMAS DISCUSSES

UNIONIZATION OF POLICE

Speaking in the Senate, September 5, Senator Thomas said:

"The public has been informed from day to day of the action of the authorities toward the organization of the police force of the

City of Washington and its proposed affiliation with the American Federation of Labor. The Commissioners of the District of Columbia, in the necessary and very proper exercise of their functions as the governing body of the people here, have vigorously objected to this organization and have forbidden its affiliation with the American Federation of Labor. They have recognized the menace of such a situation if it should develop into an actuality, and have taken steps to prevent it which should receive the commendation of every right-thinking man and woman in the country. Some of the policemen are said to have defied the orders of their superiors and have announced their intention of perfecting their plans and accomplishing their purposes. They are receiving the active assistance and support of the representatives of the American Federation of Labor, including Mr. Gompers, the president of that great organization.

"On yesterday Mr. Gompers appeared before the Commissioners in behalf of the police union and used his great influence in the effort to overcome the attitude of the Commissioners and to secure their consent to the proposed confederation. I shall not occupy the time of the Senate in reading the somewhat lengthy account of his efforts, but content myself with calling attention to the fact that Mr. Gompers protested against this opposition as 'an activity which indicates a misconception of the American Federation of Labor, which casts a stigma upon it, and declared flatly that America was not prepared to brook autocratic action by any official.'

"My contention is, and I do not believe it can be refuted, that no such alternative presents itself; that these employees need not and should not be permitted to assume obligations, membership, and commitments which essentially injure or impair their efficiency as guardians of the public peace. No man, no matter however devout or far-reaching his belief in the principle of unionism, can defend its application to conditions like these.

"I trust, therefore, that the Congress of the United States will stand squarely behind the District Commissioners and by their power over the national purse bring confusion to this last and most impious attempt at government by injunction."

Magnesite Bill Reported Favorably

The bill providing duties for magnesite and its manufactures was reported favorably by the Ways and Means Committee as this issue was going to press.

An Eight-Hour Day

The French Chamber of Deputies, which recently rejected a bill proposing an eight-hour day in the coal mines of France, has now adopted the eight-hour day, and explains that its previous rejection was the "result of a misunderstanding." The strike in the French mines has therefore been called off.

THE AMERICAN MINING CONGRESS ST. LOUIS INDUSTRIAL CONFERENCE

The American Mining Congress, representing the broad interests of the basic industry of mining, has determined to take an active part in the adjustment of the general business program of America. The Congress has been one of the most conservative factors in America since war was declared, and mining, with its affiliated industries, has profited in great measure by the effective team-work of this organization throughout the country and especially in the National Capital, where both administrative and legislative tendencies to disrupt business have, at times, been most dangerous.

Since war ceased, and the need for complete readjustment of industrial relations and business methods has become apparent, the officials of The Mining Congress have been carefully analyzing these problems with the idea of eventually presenting to Congress a workable and fair program which would have the endorsement of the American people.

To consider this program, The American Mining Congress has called a convention of mining men, labor and financial leaders and economists to be held in St. Louis during the week commencing November 17. The Planters Hotel has been secured for headquarters, convention sessions and for an interesting educational exposition of the history of mines and mining development, which is to be installed by the U. S. Bureau of Mines by courtesy of the Hon. Franklin K. Lane, Secretary of the Interior.

The business men of St. Louis, realizing the importance of this convention, have begun elaborate preparations for accommodating the delegates. A committee has been appointed, composed of some of Missouri's leading business men. The Mining Congress, in order to facilitate the organization of this convention, has opened a business office at the Planters Hotel.

The official call has been supplemented by cordial invitation from Governor Gardner of Missouri, Mayor Kiel of St. Louis, and the combined industrial bodies of Missouri and St. Louis.

The complex economic problems now confronting the mining industry include many of the "every-day" questions arising in mine management, and the transportation and marketing of mine products. Not only will these matters be given attention, but the great vital issues now more or less in their initial stage of development will be fully and frankly discussed from every angle in order to develop a solution of the problem upon which the country may depend for its future industrial security and prosperity.

TARIFF BILLS FACE DELAY ON ACCOUNT OF SENATE APATHY

Tariff legislation is being delayed by the apathy of the Senate. While the tungsten bill is the only one of the emergency tariff measures which is of specific interest to the mining industry, which has passed the House it may be said that the House would have worked faster had there been any prospect of securing prompt attention to such bills on the Senate side.

At this writing the zinc bill is scheduled to come up next in the House.

There are no promises being made on the Senate side as to when the tariff bills will be taken up. It has been stated defi-

nately that there will be hearings and that they will consume considerable time.

Distributors of Coal

The U. S. Fuel Administration has received requests for a list of the distributors of coal and coke to whom licenses have been issued. The demand for such list, however, has not been sufficient to warrant the printing of a list of these licensees for publication by the Fuel Administration.

Anyone desiring this list will be afforded an opportunity to make copies thereof subject to such restrictions as may be necessary to prevent interference with the use of the list for purposes connected with the official business of the Administration.

PITTSBURGH RESEARCH LABORATORIES TO BE DEDICATED FORMALLY SEPT. 29

The new laboratories of the Interior Department's Bureau of Mines at Pittsburgh, costing more than a million dollars, are to be dedicated on September 29, 30 and October 1 with appropriate ceremonies, in which the mining and metallurgical industries of the country are to take part. The program for the three days has been arranged by the Bureau of Mines in cooperation with the Pittsburgh Chamber of Commerce.

This great research establishment is a monument to the American Mining Congress in that its activities brought about the creation of the Bureau of Mines. The Pittsburgh station was a part of the original plan as developed by the American Mining Congress.

One of the biggest features of the coming ceremonies will be the Nation-wide First-Aid and Mine-Rescue Contest to be held during the last two days. Already nearly 100 teams from the coal and metal mining companies throughout the country have entered the lists and more are expected by the time the entries close.

On October 1 there will be a holiday for the miners of the Pittsburgh district, and thousands will attend this national meet and witness the awarding of the prizes to the winners.

In addition to the usual prizes for these contests, the Joseph A. Holmes Safety Association, an organization created in 1916 in honor of the memory of the first director for the purpose of giving recognition to persons who had performed meritorious and heroic deeds in the saving of human life in the mining and metallurgical industry, or who had developed some safety appliance to further the saving of life in those industries, will make its first awards. Dr. Van H. Manning,

president of the association, will announce the list of recipients of diplomas and medals and recite the deeds for which they are presented. The Committee on Awards has recommended that twelve gold medals be awarded all for heroic deeds performed by miners in coal and metal mines in efforts to save the lives of other fellow-workmen. In several instances where men lost their lives in endeavoring to save others, the medals will be awarded to their nearest living relative. It is intended that this organization serve the mining industry in the same manner as the Carnegie Hero Commission attempts to serve industry generally.

Speaking of the accident conditions generally in the mining industries and of the outlook, Dr. Van H. Manning, director of the Bureau of Mines, says:

"I am often asked, 'What has the Bureau of Mines accomplished in the saving of human life in the mines?'

"It is difficult to say that so many miners might not have been killed if it were not for the Bureau of Mines. there are so many varying factors involved. I may say, however, that if you consider the prevailing average death rate in the mines for a period of years before the Federal Government took up this work and compare it with the average fatality rate since the bureau was created, you will find that 5,000 less miners have been killed. In other words, had the old fatality rate been maintained through the last few years, 5,000 more men would have lost their lives.

"I am of the opinion that the statement of 5,000 lives saved is a conservative one, for it must be remembered that the situation was gradually becoming worse in the mines, and



THE NEW MILLION DOLLAR LABORATORIES OF THE U. S. BUREAU OF MINES AT PITTSBURGH



ONE OF THE MAIN CORRIDORS OF THE PITTSBURGH LABORATORY

who knows but what there might not have been 7,000 or 8,000 lives lost. We also have to take into consideration that, thanks to the many improvements in life-saving methods and the greater understandings of the causes of accidents, the tide has definitely turned and that this saving of 3,000 human beings within a few years will be accentuated and increased as the years roll on until we can show several times 3,000 lives saved.

"Whatever statisticians attempt to make out of these figures, however they may endeavor to twist them, it is indeed a glorious record of human progress. Five thousand lives saved! Perhaps 2,000 less widows! At least 3,000 children who still have fathers.

"Take away all the other manifold duties of the Bureau of Mines and this one accomplishment is worthy of all its costs to the Government since its establishment and for years to come. And when I referred to this as an accomplishment, I do not mean that the Bureau of Mines deserves all of the credit. It was, however, the agency that picked up the isolated, sporadic efforts of a few well-meaning men and companies and welded them into a great national movement for greater safety in the mines. It is true it at once gained the cooperation of the miners, the mine operators,

the state mine inspectors and others, and without these the Bureau of Mines would have been almost helpless.

"It was in 1911 that the bureau held under its auspices a great, national first-aid and mine-rescue meet at Pittsburgh, Pa., which was attended by 22,000 miners. The slogan of that meet was 'Safety First,' and that was the time that the slogan, since internationally famous, first became a national battle-cry for this humanitarian movement. I understand that a steel company had used the slogan locally before that, but in all intents and purposes the Bureau of Mines was responsible for its becoming a great world slogan.

"Not only was 'Safety First' immediately adopted by the mining companies, as you will see it posted about hundreds of mines and also on their equipment, but it was also taken up by the railroads and by industrial plants of the country until it became a national by-word. Safety organizations appeared everywhere; committees of the men were formed in the mines and shops, and determined campaigns were inaugurated to reduce the number of deaths and injuries in the industries. In some of the big establishments the committees printed little papers for the men, giving the progress of the life-saving work and pointing

out accidents that perhaps could have been avoided. Safety inspectors and committees were chosen, the railroads built up elaborate safety organizations, and divisions vied with each other as to which could produce the cleanest records. There was a spirited rivalry between these committees, and the records of the different establishments began to show results in lives saved and men saved from suffering. In quite a number of mills and factories and railroads there was a reduction in the fatalities of more than 50 per cent. Further improvement was slower, but the original gains were made and added to.

"Just how many thousands of lives were saved may never be known, for there are no statistics that adequately cover industrial accidents, but we do know that the Bureau of Mines and its associated agencies started a movement that not only spread throughout the entire United States but also reached the other countries of the world with an equally good effect. And it all started with the modest mine-safety meet we held in Pittsburgh in 1911.

"Since that time the bureau has gone on its way, improving its methods, interesting the miner in his own safety and that of his fellow-man, doing what it could to point out to the owners of the mines the dangerous places that could be avoided and making recommendations as the result of its experiments looking toward still greater safety.



DORSEY A. LYON

Superintendent of the Pittsburgh Station

"Today the Bureau of Mines maintains in every mining field of the country a mine-rescue car fully equipped with modern life-saving apparatus, that responds to disasters and assists in the rescue work; in the meanwhile, visiting the mines in its district and giving the miners training in both mine-rescue and first aid to the injured. As a result there are several thousand miners throughout the country who are expert in the use of the oxygen mine-rescue apparatus and who are familiar with the most modern methods of life-saving. Besides, more than 50,000 miners understand first-aid-to-the-injured work as well as regular hospital corps. All of these men have been trained by the Bureau of Mines.

"Happily, great mine disasters have been becoming fewer and fewer as the men come to a better understanding of the causes. Nevertheless, they do happen, and one thing that the bureau has preached is that upon such a visitation there shall be a more orderly and systematic method of rescue work, for it has been demonstrated that life can be saved in devious ways. The bureau has endeavored to tell the miners that, in a great catastrophe, it is often better for entombed miners to barricade themselves in, keeping the poisonous gases out of their working place and waiting for relief. In this manner forty-two men entombed in a mine for four days were recently rescued, the men even being able to walk out of the mine.

"We are now hopeful that this coming nation-wide first-aid and mine-rescue week in Pittsburgh will give the safety movement another such impetus as the meet in 1911. If its influence is but one fraction of the former meet, the bureau will be amply repaid for initiating this movement.

"As far as the mining industry is concerned, we are not content to rest on the progress made. There are now more than a million miners in the United States, and each year more than 3,000 are killed in accidents and a quarter of a million injured. Taking the cold, business calculation of the state compensation commissions and eliminating the suffering and sorrow of 3,000 killed each year, the economic loss from these fatalities alone is \$12,000,000 a year, for these commissions are paying an average of \$4,000 for every life lost. This is a terrible toll for one industry to pay each year in providing the coal that furnishes the power of the nation and warms the homes of the people. It is hard for us to realize that, out of every mining camp of 1,000 men, three of them are sure to lose their lives before the next year is out.

"Mining will always be an extra hazardous business; there will always be dangers inherent to the industry that will ever take a death toll and beyond which it will be impossible to reduce the death rate.

"But the question is, 'Have we reached that irreducible minimum?' No, I think not. It is my



An explosion of coal dust at the experimental mine of the U. S. Bureau of Mines at Bruceton, Pa.

belief that we can cut down the present fatality rates fully one-half; that we can save each year 1,500 of the 3,000 killed every twelve months. Isn't such a goal worth striving for? A prize of 1,500 human beings saved to life, happiness and their families each year!

"This may seem like one of those ideals impossible to attain, but so did the saving of 5,000 lives already accomplished through similar efforts. Nevertheless, that is our goal, and today we see more definitely its attainment than the progress already made when we started this work. The causes of these fatal accidents are now much better known than heretofore. Operators and miners are giving much more thought to the dangers of the mines, and the wide-awake among them have installed more modern safety devices. The industry is not now groping in the dark on some of those causes that were more or less mysterious some years ago, such as the dangers from coal dust. Through its experimental mine of the bureau, mining men and miners both have a keener understanding of the dangers of coal dust, and they have also learned how to care for this menace that has cost so many lives.

"In the mining industry at least a human life is much more valuable than ever before, and I believe that can be said of all the industries, especially those of the United States. The recent world holocaust, in which 7,000,000 men made the supreme sacrifice, would seem to belie my statement; nevertheless, it is true as seen in the great advances in safety work, the millions of dollars spent in safety devices, and the humanitarian work of the different state compensation commissions. The day of the ambulance chaser and those ghouls that preyed upon the widow beset with grief over the loss of her husband has happily passed away. The state now steps in and sees that the widow and the orphan are protected, and that alone is worth all the fight that we have endeavored to make. I do not say that the Bureau of Mines is responsible for these state compensations, but I do know that these commissions came after the mining industry started its great human saving drive and that the disclosures of the conditions in mining furnished the states with facts that favored the establishment of these commissions.

"Cut the mine fatalities in half."

The dedication ceremonies promise to bring to Pittsburgh for the three days the most prominent mining and metallurgical men of the nation, not alone interested in the safety-first movement, but also those connected with the allied industries that use the products of the mines.

The Bureau of Mines, in cooperation with the Pittsburgh Chamber of Commerce, has already completed an elaborate program of events, which includes the presence of high government and state government officials, besides the leading men of mining thought in the country. The ceremonies proper open on Monday morning, September 29. The evening before, Sunday, September 28, there will be reception committees at the various leading hotels to receive the guests. On Monday morning the new laboratories at 1800 Forbes street will be open for inspection, and at 10.30 o'clock the dedicatory ceremonies will be held on the lawn in the rear of the laboratories, with Dr. Van H. Manning, director of the bureau, presiding. After invocation by Dr. S. B. McCormick, chancellor of the University of Pittsburgh, there will be an address of welcome by Hon. F. V. Babcock, Mayor of Pittsburgh. Response will be made by the Hon. Franklin K. Lane, Secretary of the Interior, to be followed by addresses by Horace B. Winchell, president of the American Institute of Mining and Electrical Engineers; John L. Lewis, acting president of the United Mine Workers of America, and the Hon. William C. Sproul, Governor of Pennsylvania. The formal ceremony of handing over the keys of the building by Secretary Lane to Director Manning will follow.

After luncheon at the Bureau of Mines building, the guests will board special trains on the B. & O. Railroad to the experimental mine of the Bureau of Mines at Bruceton, Pa., 14 miles from Pittsburgh. Upon arrival there a prearranged explosion of coal dust will take place in the experimental mine as a demonstration to the visitors, and after that there will be an inspection of the mine and the explosives testing plant, the guests returning to the city at 6 o'clock in the evening. At 8 o'clock there will be a general meeting at Carnegie Music Hall under the auspices of the Pittsburgh Chamber of Commerce, with an address by Secretary Lane, an organ recital by Dr. Chas. Hemroth, and a moving picture prepared by the National Coal Association. "The Story of Coal" will be given a first presentation.

On Tuesday, September 30, the new laboratories will be open for inspection by the guests the entire day, and at 2 o'clock the elimination contests in the National Safety First Aid and Mine-Rescue meet will be held at Forbes Field, also the awarding of the state championships. At 5 o'clock, at Forbes Field, there will be a demonstration of the explosibility of coal dust, and at 8 o'clock



Testing out the Geophone—a listening device used by the Bureau of Mines to locate entombed miners

the Chamber of Commerce will present a pageant typifying the spirit of the mining industry, with music by the band of the Carnegie Institute of Technology.

On Wednesday, October 1, at 9 a. m., there will be a final mine-rescue contest by the ten successful teams of the previous day at Forbes Field, with a presentation of the national cups and prizes. At 2 o'clock in the afternoon announcement of the J. A. Holmes Safety Association will be made by Dr. Van H. Manning. At 2.30 o'clock the final first-aid contest, participated in by the twenty best teams of the previous day for the gold cups and prizes, will be held. At 5 o'clock there will be a demonstration of a coal-dust explosion at Forbes Field, the events closing with a smoker at the Chamber of Commerce, in which the prizes will be awarded and speeches made.

The Honorary Committee in charge of the dedication of the Pittsburgh station is as follows: Mr. George S. Oliver, president, Pittsburgh Chamber of Commerce; Mr. John F. Herron, president, City Council of Pittsburgh; Mr. Harry N. Taylor, president, Na-

tional Coal Operators Association; Mr. John L. Lewis, acting president, United Mine Workers of America; Mr. Horace B. Winchell, president, American Institute of Mining and Electrical Engineers; Hon. Franklin K. Lane, Secretary of the Interior; Dr. Van H. Manning, director, Bureau of Mines; Dr. S. B. McCormick, chancellor of the University of Pittsburgh; Dr. Arthur A. Hammerschlag, president of the Carnegie Institute of Technology; Dr. S. W. Stratton, director, Bureau of Standards; Dr. R. F. Bacon, director, Mellon Institute; Mr. Seward E. Button, chief, Department of Mines, State of Pennsylvania; Dr. D. Van Schaack, president of the National Safety Council; Mr. T. A. O'Donnel, president, American Petroleum Institute; Mr. Mortimer E. Cooley, president, American Society of Mechanical Engineers; Mr. Fayette S. Curtis, president, American Society of Civil Engineers; Mr. J. A. Capp, president, American Society of Testing Materials; Dr. William H. Nichols, president, American Chemical Society; Mr. Calvert Townley, president, American Society of Electrical Engineers; Mr. G. H. Neilson, president, Engineer Society of Western Pennsylvania; Dr. W. D. Bancroft, president, American Electro-Chemical Society; Mr. R. T. Stull, president, American Ceramics Society; Mr. E. N. Zern, president, Coal Mining Institute of America; Mr. James R. Angell, chairman, National Research Council.

MEXICAN PETROLEUM CO.

AWARDED OIL CONTRACT

The Division of Operations on August 9 announced that the Shipping Board has awarded to the Mexican Petroleum Corporation the contract for 500,000 barrels of grade "C" fuel oil to be taken in cargo lots during the next twelve months. The price is \$1.18 per barrel. Point of delivery is the United States Shipping Board bunkering station at St. Thomas, W. I.

In accepting this bid the board announced that it was on the agreed basis of delivery No. 2 as given in the invitation for bids recently issued by the Division of Operations, which is as follows:

"Supplier to furnish, transport and deliver cargo lots into storage tanks of the United States Shipping Board's oil bunkering station at St. Thomas, W. I.; delivery to be accomplished within thirty (30) days after receipt of written notice from the Division of Operations. Supplier to guarantee a discharging pressure at ship pumps not less than 75 pounds. Shipping Board shall be allowed seventy-two (72) running hours to take delivery at St. Thomas. Demurrage shall be payable at the rate of \$80 per running hour, but if by accident delay should occur at St. Thomas due to fire or breakdown of machinery of the United States Shipping Board, the rate of demurrage shall be reduced to \$40 per running hour for time so lost."

RAILROAD BROTHERHOOD MOVEMENT SCORED BY THOMAS IN SENATE SPEECH

In the course of an address to the Senate, Senator Thomas, of Colorado, commented on the labor situation growing out of the demands of the railway brotherhoods as follows:

"We are face to face with a demand—not a request, but a demand—on the part of something like 600,000 employes, first, that we give them \$500,000,000 at once, which confessedly will not help them at all—and they propose to suspend the operation of our great transportation systems until we do—second, to reduce the cost of living; and, third, to pass the Plumb bill, and by that means take over \$20,000,000,000 worth of property and operate it under government ownership according to a system provided by that bill.

"Just what does this mean? This is the Senate of the United States. The House is at the other end of the Capitol. Combined we represent one of the great departments of the government. Every member has taken an oath to support the Constitution of the United States, which requires him to legislate in accordance with the provisions of that instrument as he understands them. We are the delegates of the people, sent here for a specific purpose; and legislation necessarily carries with it a power of judgment. This, I think, is the first time in the history of the nation—I hope it is—and God grant it may be the last, although I fear it may not be—in which a fragment of the American people, fully organized and in control of industries vital to the public welfare, has pointed its finger to the Congress of the United States and said, 'Legislate thus and so,' failing to do which, in the language of one of them, 'We will tie up the system so that it can never operate again'; and ours is the responsibility right now of giving answer to that demand, whatever the consequence may be to us, for there can be no consequence quite as serious as that which will inevitably result from yielding to such a demand, since it will be followed by others until we shall simply be here, like the French assembly during the revolution, finally, to do the bidding of the throngs in the gallery or be mobbed and butchered if we refuse. It means an end of representative government. Let us not flinch the issue. If I am not right in my conclusion, I want to be corrected. There are Senators upon the floor of vastly more legislative experience than I, many better acquainted with republican institutions, their history, and the history of nations which have risen, matured and fallen. If that is not the result of this demand, I want to be corrected. If it is, what does our duty require of us?

"I think this question is quite as pregnant with importance as any treaty between this country and other nations possibly can be.

"Now, I do not want to be extreme in my

statements, and particularly since the honorable chairman of the Committee on Interstate Commerce has requested us to be temperate in our discussion of this serious problem, and yet I cannot in my mind characterize a threat like this from government employes to tie up and paralyze the great distributing system of the country, and by that means bring ruin and wreck and misery to all classes and conditions of men unless we accept their mandate and do their bidding, as short of treason. It would be bad enough if it came from those who are not employes of the government; it is inexcusable in them.

"Some years ago, when public excitement ran high in the State of New York because of the arrogant aggressions of the New York Central Railroad, then defying both national and state laws and regulations, Mr. Vanderbilt was interviewed regarding his attitude. His reply was, 'The public be damned!' and with that statement he sealed the fate of the agitation then progressing. The other day, in the city of Chicago, at a meeting of the organized employes of the city railroads, one of the leaders who had been appointed to negotiate a settlement, and who had succeeded, made an effort to explain the details of the agreement to the assembly, but was howled down. He then managed to say, 'Gentlemen, you are not fighting the owners of the roads; you are fighting the public,' and the reply instantly came back, 'The public be damned!'

"Please tell me, Senators, the difference between the two situations if you can, each with the same watchword, and that watchword truly expressive of the attitude of those announcing it.

"The difference is not only in the number of votes, but it is in the terrible effectiveness with which that sentiment may be carried out through the collective strength of the individuals as opposed in the other case to the collective strength of capital. In other words, it is the more dangerous of the two, if there is any difference whatever.

"There are 110,000,000 people in the United States, according to the last estimates. Six hundred thousand men are identified with this movement. That is to say, less than 1 per cent of our population proposes to take this mighty nation by the throat and starve and beat it into submission to its demands.

"Now, these demands may be perfectly fair, perfectly just, and I may vote for them after final consideration, but never under such circumstances; and I am wondering if the old spirit of Americanism, which was the mainstay of the United States during the American Revolution, that spirit which represents Anglo-Saxonism for centuries, has become so dormant, so sluggish, so stagnant, that it will sub-

mit to this situation, and leave the Congress or the United States to meet this demand, bereft of its mighty influence. If so, the United States is not worth saving. Its salt hath lost its savor, and nothing remains except that slow process of decay which has characterized the fate of many great nations of the past.

"For my part, if this country's mission is to be closed, I prefer a swift to a lingering process. If this nation, freighted with the destiny of all humankind and based upon the eternal principle of liberty regulated by law, has run its course, then let the end come as quickly as possible."

WORLD'S POTASH NEEDS COULD BE MET BY ALSATIAN MINES

Discussing future potash possibilities in Alsace, F. K. Cameron, of the Bureau of Mines, says:

One thoroughly equipped shaft of a potash mine is supposed to be competent for bringing to the surface at least 800 tons daily, and, if both shafts be fully equipped, twice this production could be realized. In other words, if all the existing shafts in the Alsatian field were put into maximum producing condition, the field should produce about 15,000 tons daily of crude salt. Such a production would correspond in round numbers to one million tons of actual potash annually, about the pre-war demand for all the world, including Germany. Hence one occasionally hears the suggestion that an international agreement be effected permitting the Stassfurt mines to supply Germany, and possibly England and Scandinavia, while the rest of the world's market be assured to the Alsatian mines.

"That the Alsatian mines can be put into shape to produce 15,000 tons daily and to convert all or any part into refined salts is feasible. Although exact figures for the pre-war price of establishing a mine in Alsace are not available, it appears that, on the average, the existing mines cost about \$3,000,000 apiece. This would mean approximately \$20,000,000 as representing the actual investment in the mines formerly held by the Germans. While no one now knows definitely what will be done with the Alsatian mines, the opinion in France seems to be that the German interests will be bought out on a valuation based on the actual investment and then resold to a corporation or corporations yet to be formed under French control. There are complications in sight. For instance, a fairly large percentage of the shares in these formerly German companies are held in France, and in 1913 the government of the Alsace-Lorraine bought interests in Reichsland and Theodore and Eugen. It is expected also that the new control will provide the capital to bring the present mines and their equipment to full producing capacity before any new shafts are authorized. It is estimated that at least three

years' time will be required. No estimates having any authoritative backing have yet been made of the additional capital which will be required, as probable costs of material and labor are purely speculative at this time, and there is great uncertainty to what extent the refining of the crude salts should be carried out to meet the market requirements, especially the American market. There is in evidence in France a strong desire that American investors shall subscribe for a substantial fraction of the required capital, but equally a firm purpose to keep the control in French or French-Alsatian hands. Outside of sentimental considerations, no clearly defined inducements for American participation have yet been formulated.

"The work of putting the Alsatian mines into good producing shape seemed to be progressing quite satisfactorily in April of this current year. The cost figures tentatively given above can be gradually lowered, but to what point it is impossible to even guess as yet. Certainly the actual cost of producing potassium chloride, at the point of production, will be always lower in Alsace than anywhere else except where it may be obtained strictly as a by-product in a procedure where the cost can be absorbed by another product. It does not necessarily follow that other sources of potash cannot be profitably utilized, because of special conditions of manufacture or transport, and this presentation of conditions in the Alsatian field will, it is hoped, be of value for prospective undertakings in America."

LENROOT SUBMITS PLAN FOR RAILROAD CONTROL

Unification of all railroads in the United States into a single national system, privately owned, with minimum earnings guaranteed, and with management shared by shippers, farmers, security owners, employees and the public, and excess profits divided between the public and employees, is provided for in a bill introduced in the Senate by Senator Lenroot of Wisconsin.

This bill is supposed to represent the views of the liberal element in Congress regarding the railroad problem and the proper way of adjusting it. The Lenroot bill is said to embody the views of the Wisconsin Senator and Nathan L. Amster, president of the Citizens' National Railroad League, the latter being a railroad reorganizer of long experience. Senator Lenroot believes that in his bill he has afforded protection for the interests of investors, the public, labor and the shippers and has provided a means of obtaining economical and efficient transportation at reasonable cost.

The principal features of the Lenroot bill are:

1. The ownership and operation of all the railroads by one privately owned and privately operated railroad company, with full public control.

2. The management of this corporation, under the supervision of the Interstate Commerce Commission, by a board of eleven directors selected by the President (and confirmed by the Senate) out of a limited number of names proposed to the President by the various classes of the public—two from the employes, two from commerce, industry and the shippers as represented by the United States Chamber of Commerce, two from the farmers as represented by recognized farm organizations, three from the security holders, one from the Interstate Commerce Commission and one from the State Railway Commissions.

3. The selection by the directors of a Director-General, who holds office at their pleasure, to operate the roads under such regional divisions as the directors may determine. An efficiency and economy board of five men selected by the President out of engineers proposed to him by the leading engineering and technical societies of the nation, who will study service and suggest and supply improvements and inventions.

4. The valuation of all the railroads by averaging the original cost less depreciation, the reproduction cost less depreciation, and the net earnings over the last ten years capitalized at 5 per cent per annum, varied by urgent equities. Procedure is provided for expediting the valuation and for an early judicial determination of the fairness of such valuations. Unearned increment for the future will be excluded.

5. Existing bonds will not be disturbed; new stock with maximum dividends of 6 per cent per annum will be exchanged for existing stock as valued by the Interstate Commerce Commission. Earnings in excess of 6 per cent will go: 40 per cent to labor, 30 per cent to the public for improvements and retiring outstanding stock, thus reducing rates, 30 per cent to the stockholders.

6. The government will guarantee dividends of 4 per cent on all stock issued by the corporation. No stock can be issued without the consent of the Interstate Commerce Commission. It will be a crime to try to use political influence to obtain promotion or employment with the corporation.

7. The directors must establish various labor boards with equal representation for labor to suggest improvements of service, working conditions and safety, and to study wages, standards of living and mediate in all labor disagreements. The right to organize and the right of collective bargaining are guaranteed.

CALIFORNIA'S MINERAL

PRODUCTION SHOWS GAIN

Compilation of the final returns from the mineral producers of California for 1918 has now been completed by the statistical division of the State Mining Bureau, under the direction of Fletcher Hamilton, state miner-

alogist. The total value amounted to the record sum of \$199,753,837, being a net increase of \$38,550,875 over the 1917 figures. There were fifty-four different mineral substances, exclusive of a segregation of the various stones grouped under gems; and of the fifty-eight counties in the state, all but two contributed some mineral product.

As compared with the 1917 output, the notable features of 1918 are the enormous increase in petroleum valuation and the decrease of over three million dollars in the gold yield. Of the metals, copper decreased approximately 740,000 pounds in quantity and \$1,444,000 in value; gold decreased \$1,558,242; manganese increased in tonnage and value; and quicksilver slightly in value, while silver, lead, zinc, and tungsten showed decreases.

Petroleum increased over four million barrels in quantity, and the prices per barrel for all grades continued to rise so materially that the net result was an increase of \$40,483,012 in total value.

Decided changes are shown by some of the structural and industrial materials; among others, cement and chromite increasing, with magnesite and miscellaneous stone showing decreases. Of these, chromite leads with a gain of over two and a half million dollars. Of the salines, potash increased over two and a half millions in value, and borax decreased over a half million.

Krupps Plan New Plant

Krupp Works of Essen are reported to be planning the erection of a gigantic plant at Apeldoorn, Holland. The plant will be connected with the iron of the Ruhr district and coal of Westphalia. It is believed that offers of German iron and steel products are being sent to England through a Belgian exporter.

Opens Black Hills Town

The sale at public auction of several hundred business and residence lots in the government town site of Newell, South Dakota, has been authorized by the Secretary of the Interior for October 1, 1919.

Newell is located in the Belle Fourche Valley, northeast of the Black Hills mining region. It is the largest town in the reclamation project which has been completed by the government at a cost of three and a half million dollars. The irrigable areas tributary to the town and now largely in cultivation comprise 50,000 acres, and in 1918 produced a crop valued at \$1,276,115.

Canadian Labor Conference

There will be held at Ottawa, Canada, beginning September 11, 1919, a national conference to consider labor legislation. It will meet under the auspices of the Canadian government, and, besides federal and provincial governments, employers' and employees' organizations will be represented.

SENATE BEGINS SEARCHING COAL PROBE— EXTRACTS FROM THE TESTIMONY

No effort is being made by anyone concerned to minimize the possible far-reaching consequences of the Senate coal investigation, which began August 26. The hearing is being conducted by Senator Frelinghuysen, the chairman of the subcommittee of the Interstate Commerce Committee, which was selected for the purpose. One of the possibilities of the hearing is that it will furnish the information which will guide Congress in the drafting of legislation which will affect the coal industry. One of the significant features of the hearings thus far was that portion of the testimony of Harry N. Taylor, president of the National Coal Association, which dealt with the labor situation. Extracts from Mr. Taylor's remarks and some of the questions put to him by members of the committee follow:

MR. TAYLOR: I have been employing union labor ever since I was a boy, and I will not tell you how long it is, but it is more than twenty-five or thirty years. Since 1886 I have dealt with union labor, I have no quarrel with union labor, and what I say now is not a reflection upon union labor, but we are all going through a stage of unrest. I would rather say we are all going through a siege of unrest in the labor world. Early in May I was advised that the United Mine Workers had a meeting of their Policy Committee, at which they mapped out the demands that they would make upon the operators with the signing of peace. I would like to make that clear; I would like to explain it by saying that the central competitive field—what is known as the central competitive field in this country—is composed of Western Pennsylvania, Ohio, Indiana and Illinois. Since 1898 the operators and miners in the central competitive field have met in convention and have established their wage scale and made what is known as the interstate contract, based upon the contract of 1898, which was the basic contract of the country. Using that contract as a basis, the other surrounding fields arranged their labor scale in conformity, in a competitive way, both as to earning power and as to market conditions, based on that central competitive scale. Then all the outlying districts had their own conventions, and, working with their men, worked out their wage-scale agreements and contract agreements.

In the war period the necessity of continued production and loyalty on the part of both miners and operators was emphasized, and there was an agreement made known as the Washington agreement, which was a kind of blanket agreement that covered all of the contracts which are based on the central competitive field, and it was made for the period of the war. The men were given a substan-

tial advance in wages. The President and Dr. Garfield and all the Fuel Administration authorities recognized that agreement, and it was understood that the miners should continue work on account of that substantial advance given them in their wages, and also on account of their loyalty, and produce coal throughout the period of the war. It was further understood that the period of the war would be up to the signing of peace; that is, when the peace treaty was signed and the declaration of peace made, it was understood that the agreement was then ended.

The reason I make this explanation so in detail is on account of the fact that in all previous years the contracts made in the central competitive field and other fields of the country did not bear the same dates of expiration. In other words, the competitive field contract expired on the first of April. The contract with the miners in the southwestern part of the country did not expire until the 31st of July, and so on. So it was hardly possible, if there were labor troubles in certain districts that it would become national, because the miners in those districts would be covered by a similar contract, but under a different date, but the Washington agreement carried by all of those dates. So we are facing a situation now that when the war situation automatically ceased with the signing of peace there is no contract between the miners and operators of this country, so that all of the contracts between labor and the various operators expire on one day.

THE CHAIRMAN: And a renewal has to be made?

MR. TAYLOR: And a renewal has to be made in all districts possibly at some certain date, or possibly on certain different dates, as was the custom in the past. But the fact remains that all existing contracts between the miners and the operators will expire the day the peace treaty is signed.

Now the miners' organization had their representatives in Europe. Mr. Frank Jones, the president of the United Mine Workers, was the delegate who sat with the European leaders of the mining industry, and of course was in conference with them as to the worldwide situation and the demand to be met in other countries, as well as giving them information in regard to our conditions. After his return there was a meeting in Indianapolis, so I am advised, although this is simply a matter of rumor—we have no connection with the miners as far as getting information is concerned, but we know it to be a fact because we have seen it published since in the mining journals—that the demand they intend to make is largely in conformity with the demand made by the English miners on the English

coal operators, and that is that the present contract for an eight-hour day shall be cut down to a six-hour day and that instead of working six days a week, or forty-eight hours a week, they intend only to work five days a week, and their demand goes on further to say that in addition to this six-hour day and the five-day week there shall be a substantial increase in the present wage. That demand so far has not stated what that substantial increase shall be in dollars and cents.

SENATOR MYERS: Sixty per cent increase, some newspapers report.

MR. TAYLOR: Well, nobody knows. I will explain that in a moment. That is the demand. Further than that, the national officials were authorized, or rather instructed by their board—what they call their Policy Committee—to have drawn up a bill to present to Congress for the nationalization of all of the mines of this country. That is the information we get as to what their demand will be. The miners have called a convention of all of their organizations which they claim represents about 700,000 men—I believe it is practically 500,000 men in reality, but that is immaterial—a convention of all the miners has been called at Cleveland, Ohio, for the 9th day of September. Their procedure is to have the district presidents of their organization in each state or each district present the demands that they desire to have put into effect in their own districts. Then this national convention, after hearing all their different demands, is to formulate a demand which they will make upon the operators of the central competitive field.

As I understand, and as I explained before, after that demand is made the other fields will base their demands upon that basic contract.

A call is already issued for the 25th day of September at Buffalo, New York, for a conference between the miners and the operators, at which they desire to have a new wage contract made with the central competitive field. Whether they will change these demands that I have enumerated to you at their convention in Cleveland—

SENATOR MYERS (interposing): When was that?

MR. TAYLOR: On the 9th day of September, that is, the miners' convention, and the joint convention will be on the 25th of September, at Buffalo.

SENATOR WOLCOTT: The 25th of September convention is what?

MR. TAYLOR: It is a convention of the central competitive field.

MR. WOLCOTT: Is all this based on the assumption that the treaty of peace will be signed prior to the 25th of September?

MR. TAYLOR: Well, they are getting restless. That is what I am leading up to. Already the more radical element are determined to put into effect the soviet government of mines. In an interview published widely in the papers, Mr. William Greene, the secretary of the

miners, is quoted as saying that they do not want government control of mines unless they have with it democratic management. They do not want any Burlesons, as they put it. They want the government to have the mines, but they want to run them for the government.

As in every industry, there are always what we call radicals, and always conservative men. In the State of Illinois, one of our largest producing states, just during the past two weeks there has been an uprising of the radical element with the express purpose of throwing out of office Mr. Frank Farrington, president of their union, largely because he is a man who believes that when a contract is made it should be carried out, and because he will not tolerate the infringement of the miners' contract, believing that the best interests of his organization are in living up to their contract.

The radicals called a rump convention last week and tried to throw Mr. Farrington out of office and shut the mines down all over Illinois, greatly curtailing the production of coal in that state.

In the State of Kansas a gentleman by the name of Alexander Howett, who has a reputation all over the United States as a radical leader, has called a strike to establish the principle that a man must be paid his wages whether he works or not, if the operator desires to have him employed. In fact, the largest producing company down there had a strike in April. There was a strike which was called by Mr. Howett. The company used some of their superintendents and managers to run their pumps and their fans, and their mine managers, who were capable of running an engine to lower the men into the mines, to see that the pumps were kept in operation so that the mines would not be flooded. Mr. Howett claims that the men on strike should be paid because another man stayed there to run the boiler or to run the fan in the fan house, and because the company refused to pay the man on strike and recognize the principle that a man who touched an engine that they ordered him to touch was not violating any order of the mine workers, he called another strike and would not recognize their right to say that a man should run an engine. The company said they would not recognize the right of Howett to say that a man should not run an engine, and as a result Mr. Howett called a strike of all the miners of that company, and they struck.

SENATOR MYERS: Are the miners still out?

MR. TAYLOR: They are out, and have been for five weeks.

In addition to that, Mr. David Frampton, president of the Missouri miners, has called all the miners out in sympathy with the demand made by Mr. Howett in Kansas, and if the company did not accede to those demands, they received permission from their national president to pull out all of the miners from the mines in Missouri as a protest

against the non-payment of the men that were on strike, because the miners asked for compensation on the basis that a man who touched anything around a mine—if a man touched anything around a mine when they were on strike—the company should allow compensation to one of their number who was on strike, and allow that compensation while he was away.

SENATOR MYERS: Did the men all come out?

MR. TAYLOR: The men did not all come out. They tried to call them all out on the 18th of August, but the men did not come out altogether. But they put an assessment on their men to keep the mines of the company where the men were on strike—to keep them permanently closed down.

ADVISORY TAX BOARD WILL BE DISSOLVED SEPTEMBER 30

The Advisory Tax Board, which was established under authority contained in the revenue act of 1918 to advise the Commissioner of Internal Revenue in the administration of the income and excess profits tax laws, will be dissolved at the end of September, according to an announcement of the Treasury Department. The reasons for the dissolution of the board at the present time are stated to be the facts that it has fulfilled its function of formulating policies and regulations governing the collection of these taxes, and that the income tax unit of the Internal Revenue Bureau has been developed to the point where it is capable of handling competently the classes of cases which have been handled by the board, together with the fact that present members of the board have expressed the desire of being relieved of their duties at the earliest date consistent with the proper administration of the tax laws. The members of the board who are retiring to resume their former occupations are Dr. T. S. Adams of Yale University (chairman), Mr. J. E. Sterrett of Price, Waterhouse & Company, New York City; Mr. Stuart W. Cramer, cotton manufacturer of Charlotte, N. C.; Mr. Fred T. Field, lawyer of Boston, and Mr. L. F. Speer, Treasury Department tax expert and former Deputy Commissioner of Internal Revenue.

The origin of the Advisory Tax Board arose out of the necessity of strengthening the ordinary forces of the Internal Revenue Bureau to administer the unprecedented taxes imposed by the law. In 1917 twelve prominent business men and experts in taxation, and in addition three of the ablest lawyers obtainable, were secured to act as reviewers and advisers. The number of this body was gradually decreased during 1918, and with the passage of the revenue act of 1918 the number was fixed at five, to be known as the Advisory Tax Board and to serve as long as the need for such outside assistance and advice should be required by the Commissioner of Internal Revenue.

The retiring board has been of great assistance to the Bureau of Internal Revenue not only in the formulation of income and profits tax regulations and administrative practices and in the settlement of thousands of individual cases, but has also been conspicuously helpful in organizing the regular permanent machinery of the bureau for the application to the millions of tax returns filed of the principles and methods adopted during the past two years for the determination of tax liability. The income tax unit of the bureau, on which will now devolve the responsibilities which have been carried by the Advisory Tax Board, and which has to do immediately with the administration of the income and profits tax laws, has been expanded in size so that its personnel now numbers approximately 3,000 persons as compared with less than 400 at the time the war revenue act of 1917 was passed by Congress. This force consists of accountants, fresh from commercial practice; engineers and technologists, lawyers, statisticians and experts in general administration. This force has been put through an intensive course of special training in the law, regulations and business practices, knowledge of which must be applied to the cases arising in the jurisdiction of the bureau. The work of this unit has been highly specialized so that distinctive kinds of cases are handled by the members of the unit who are particularly qualified in the line of business to which the cases relate. A typical example of this method of administration is found in connection with the tax returns of individuals and corporations engaged in the oil, mining and lumber industries. These natural resources have been grouped in a special division of the work, and the tax liability in every case is determined by accountants, valuation experts and others who have been drawn from these fields of industrial activity.

The decision of the department to discontinue the Advisory Tax Board was reached after very careful consideration and is based on the facts that the board has substantially accomplished the purposes for which it was created and that the present members may not reasonably be expected to remain longer away from their private businesses and professions.

Exports of Iron and Steel Heavier

The export trade of the United States in iron and steel continues to improve. Railroad material has been sold to France, Cuba, Chile, Argentine, Java and Formosa. Sales of other iron and steel products are reported to Spain, England, Portugal, Italy and Japan.

The South American trade has been invaded to some extent by German and British houses, which has checked the volume of United States sales in that country.

England has recently been a good market for American products, mostly semi-finished material and some pig iron.—Bureau of Mines Mineral Investigations.

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TARIFF SCHEDULE FOR ZINC IS PASSED BY THE HOUSE

Duty on zinc imports is provided as follows in the bill passed by the House on September 2.

SEC. 1. Zinc-bearing ore of all kinds, including calamine, containing less than 10 per cent of zinc, shall be admitted free of duty; containing 10 per cent or more of zinc and less than 20 per cent, one-fourth of 1 cent per pound on the zinc contained therein; containing 20 per cent or more of zinc and less than 25 per cent, one-half of 1 cent per pound on the zinc contained therein; containing 25 per cent of zinc or more, 1 cent per pound on the zinc contained therein: *Provided*, That on all importations of zinc-bearing ores the duties shall be estimated at the port of entry, and a bond given in double the amount of such estimated duties for the transportation of the ores by common carriers bonded for the transportation of appraised or unappraised merchandise

to properly equipped sampling or smelting establishments, whether designated as bonded warehouses or otherwise. On the arrival of the ores at such establishments they shall be sampled according to commercial methods under the supervision of government officers, who shall be stationed at such establishments, and who shall submit the samples thus obtained to a government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample, and report the result to the proper customs officers, and the import entries shall be liquidated thereon, except in case of ores that shall be removed to a bonded warehouse to be refined for exportation as provided by law. And the Secretary of the Treasury is authorized to make all necessary regulations to enforce the provisions of this paragraph.

SEC. 2. Zinc in blocks or pigs and zinc dust, 13½ cents per pound; in sheets, 13½ cents per pound; in sheets coated or plated with nickel or other metal or solutions, 10½ cents per pound; old and worn-out, fit only to be remanufactured, 1 cent per pound.

The committee in its report says:

"There are extensive zinc mining districts in Missouri, Kansas, Oklahoma, Wisconsin, Utah, Idaho, and elsewhere in the United States, and prior to the outbreak of the war in 1914 the total annual production of zinc ore in the United States was approximately 680,000 tons, which about equaled the domestic consumption.

"Prior to 1904 importations of zinc ore into the United States were negligible, but in that year 2,000 tons were imported. Importations steadily increased until 1909, when importations of zinc ore totaled 113,000 tons. The foreign ores came chiefly from Mexico, and the great increase in importations was most detrimental to the domestic industry.

"The framers of the tariff act of August 5, 1909, recognized the necessity of an import duty on zinc ores and levied a duty of 1 cent per pound on the metallic contents of the higher grade ores. Under the stimulus thus afforded, together with the decreased imports from Mexico due to internal troubles, the zinc mining industry in the United States prospered.

"The tariff act of October 3, 1913, repealed the specific duties on zinc ores of the Payne law and in lieu thereof imposed an ad valorem duty of 10 per centum. Importations under this ad valorem rate have been demoralizing to the domestic industry. The importations of zinc ore in 1915 amounted to 79,000 tons, in 1916 to 291,000 tons, and in 1917 to 262,000 tons.

"In the Joplin, Mo., district, where before the war 50 per cent of the zinc ore produced in the United States was mined, 85 per cent of the mines are now closed down, and conditions are little, if any, better in the mining districts of Oklahoma, Kansas, and elsewhere in the United States."

Anthracite Production

Anthracite production for the first half of August continues to show an increase over output in the corresponding period in the basic year 1916, which was the last normal year in the coal trade, and which was the year upon which allotments of anthracite were based by the United States Fuel Administration. While shipments in July of this year showed an increase of 7.7 per cent over June, and amounted in all to 6,052,234 tons, or 619,456 long tons more than shipped in July, 1916, the first half of August is showing a further increase and production is well in excess of production for the first two weeks of July.

According to figures issued by the United States Geological Survey, the production of anthracite in the two weeks ending July 5 and July 12 of this year was 3,282,000 net tons. For the two weeks ending August 9 and August 16, the production was 3,512,000 net tons, an increase of 230,000 net tons, or almost 20,000 net tons per possible working day, as compared with the two weeks in July.

NON-FERROUS METALS SALES REACH TOTAL OF \$1,216,427

The Director of Sales announces sales of surplus war materials made during the week ended August 1 amounted to \$4,032,528.54, bringing the total sales of surplus made between January 1 and August 1, 1919, to \$363,514,554.31, which sum represents a recovery of 77 per cent of the cost of the materials to the government.

Sales of non-ferrous metals amount to \$1,216,427.35. Embraced in this report were sales of quantities of platinum and iridium which were sold at fixed prices, the former metal bringing \$105 per ounce and the latter \$200 per ounce.

Australian Iron Imports

Australian imports of iron and steel products from the United States for seven months shows a large increase over the previous fiscal year. The total imports for 1918 to 1919 for that period was about \$26,800,000, while for the same period, 1917 to 1918, it was \$18,700,000.

British Steel Exports

British exports of iron and steel manufactures from June, 1919, is reported at 5,280,217 pounds sterling, and exports of iron ore amounted to 739,646 pounds sterling, which was 1,063,080 pounds sterling less than in June, 1918.

China's Iron Output

It is estimated that the output of iron in China will amount to 500,000 tons for 1919.

COMMITTEE REDUCES DUTY PROPOSED FOR MAGNESITE

The bill relating to a duty on magnesite, entitled H. R. 5218, which was referred June 7, 1919, to the Ways and Means Committee, was reported with amendments to the House on July 29, 1919. The bill as reported provides for a duty of $\frac{1}{2}$ cent per pound instead of $\frac{3}{4}$ cent per pound on the crude ore; $\frac{3}{4}$ cent per pound instead of $1\frac{1}{4}$ cents per pound on calcined, dead-burned grain magnesite; and $\frac{3}{4}$ cent per pound and 10 per cent ad valorem on magnesite brick instead of 25 per cent ad valorem. Commenting on general conditions in the magnesite industry, W. C. Phalen, of the Bureau of Mines, says:

"The conditions in the magnesite industry still remain unsettled. This is to be expected until the question is definitely settled as to the conditions under which foreign magnesite is to be imported. The consumers of magnesite have not ordered in the quantities which they otherwise would have. A general revival in the steel industry and in the building trades has resulted in an increasing call for magnesite, however, and orders have come to the concerns in Washington to justify one of the companies to resume operations on a partial basis. It is expected that the July production in Washington will amount to 2,500 tons of dead burned grain, that during the month of August the Northwest Magnesite Company will have four kilns in operation, and that there will be a production of 7,000 tons, barring accidents.

"Until something definite is decided upon with reference to conditions under which the foreign material can come in, little can be done in the way of intelligent planning for future development work.

"In California, where costs are high and where lowest production costs depend on working at maximum capacity, some of the plants now closed down will not start until conditions under which the plants are to work are known.

"In connection with recent hearings before the Ways and Means Committee of the United States House of Representatives, some very interesting information has appeared bearing on the quality of domestic magnesite, and also on the application of this mineral to the flooring industry."

Steel Practice Changes

The present method of steel manufacture has changed from that in vogue before the war; basic open hearth and electric furnace practices have greatly increased at the expense of acid open hearth practice. This was in part due to the difficulty of obtaining sufficient high-grade ore from foreign countries and the necessity of using local ores.

GOVERNMENT RAILROAD OPERATION

By H. N. LAWRIE¹

Of the total tonnage carried by our rail system, 58 per cent comes directly from mines. Upon the mining industry falls a large part of the costs of freight transportation and railroad maintenance. The proper solution of the railroad problem which now confronts the nation is as vital to the mining industry as it is to the rail system itself. The dependence of the rail system on mine output for tonnage is no less than the dependence of the mines upon the most economical management of the rail system to supply cheap transportation for mine products. A prohibitive transportation rate will automatically force certain mines to close, and this loss of tonnage has the effect of reducing the volume of traffic, thereby increasing the cost of transportation to all other shippers.

FEDERAL OPERATION

Revenue passengers carried (item 1) increased 1.5 per cent, while passengers carried one mile (item 2) increased 8 per cent, and the tons carried one mile (item 7) increased 2.7 per cent, combining to show an increase in total work delivered in traffic units (item 12) of 3.9 per cent. For the past three years, under private management, the number of traffic units delivered per man employed have shown a marked increase. In 1918, with an increase of 3.9 per cent in the number of traffic units over 1917, the number of traffic units per man employed (item 16) decreased 1.6 per cent and the number of hours employed in the delivery of 1,000 traffic units (item 18) increased 0.8 per cent.

The advantages of zoning freight and passengers had the effect of increasing the tons loaded per car (item 23) 9 per cent and the number of passengers carried per car (item 22) 16.7 per cent. A further analysis indicates that speed of movement was not sacrificed by overloading, which is a decided credit to the Railroad Administration. However, these favorable results still further emphasize the inherent difficulty of the government to deal with labor in an efficient manner. An increased traffic, coupled with marked improvement in loading, should have insured a greater output of traffic units per man employed or hours worked. Labor dominated the situation under threat and Congress passed the Adamson law, which added some 60 to 65 million dollars to the payroll. The expansion in the number of employes has since been (item 9) 5.6 per cent, evidently beyond the requirements of the work performed, and resulting in a less output of work per man.

The Railroad Administration then usurped the powers of the Interstate Commerce Commission to fix rates. Labor, having first succeeded in expanding the payroll numerically, then demanded increases in compensation,

which were granted by the Railroad Administration and were made retroactive in payment. The horizontal rate increase of 25 per cent in 1918 resulted in an increase of average receipts per ton-mile (item 8) of 18.8 per cent and in the average receipts for passenger mile (item 3) of but 15.5 per cent.

It is apparent that the Railroad Administration underestimated what the cost of transportation would be, and their rate increases did not create sufficient revenue, so that a net operating deficit of \$509,872,553 was recorded for the eighteen months of Federal control ending June 30, 1919. A decline in the volume of traffic for the first six months of 1919 of 14.2 per cent in the number of ton-miles per mile of road has contributed to increase the deficit.

While the deficit already creates a burden of \$5.09 per capita so that a family of six people will have to pay in excess of \$30.00 to make up for the deficiencies of finance and management of the Railroad Administration, the probability that that burden will increase more rapidly from now on is very great, which emphasizes the need for returning the railroads to private management without delay.

FEDERAL MAINTENANCE

The cost of maintenance of way per 1,000 traffic units (item 13) for 1918 shows an increase of 41.4 per cent, but, since the aggregate compensation (item 10) shows an increase of 43.7 per cent, it indicates that the volume of work done was less. The maintenance of equipment per 1,000 traffic units (item 14) increased 56 per cent, but this, too, reflects increased wages and material cost rather than an increase in the volume of work done. Mr. Hines' testimony of March 1, 1919, gives the actual number of ties and miles of rail laid in the past three years as follows:

Cross Ties Laid on All Roads

1916	90,140,160
1917	81,154,329
1918	78,958,224

Track Miles of New Rail Laid

1916	9,831
1917	8,231
1918	7,451

These figures confirm the neglect to which the roadway of our rail system has been subjected.

The Southern Appalachian Coal Operators' Association on August 27 issued the statement that "10 per cent of the coal cars belonging to the entire railroad system of the United States are unavailable for use in hauling coal. Of the 700,000 cars built for hauling coal only 634,000 can be secured for transporting coal to the consumer." This statement indicates to what serious degree

¹ Economist, American Mining Congress.

the maintenance of equipment has been allowed to decline. Further, in view of the decline of 14.2 per cent in the ton-miles per mile of road for the first six months of 1919, it is evident that much of the rolling stock which represented a surplusage in 1918 has now been withdrawn from service for repair. This neglect of maintenance of roadway and equipment is not only a tremendous burden on the cost of transportation, but also seriously impairs the delivery service upon which the consumer and producer are alike dependent. This condition has already been a handicap to our productive industries, tending to limit output and thereby force up the cost of living. If full production is still further interfered with, the cost of living will become prohibitive for the average citizen, and many industries will shut down because they will be unable to pay a wage to cover this cost of living.

It is only too evident that the railroad system has become a rapidly wasting asset under Federal control, a condition which is not in the interest of the employees any more than it is to the producer, the consumer or the traveling public. Safety of travel and speed of delivery will be greatly impaired unless the roadway and equipment are brought up to standard condition. The government in turning over the railroads to private management should make every assurance that the rates will be so adjusted as to make possible a reasonable and uniform return to the investors in railroad securities, in order that the necessary capital will be available to re-vitalize the railway system. The government may also assure labor of a reward for the more efficient performance of its work. In view of the fact that the output of work per man employed decreased during 1918, it would seem that labor has no right now to ask, nor the government to grant, a rise in wages. In having granted the demands of labor during this period of Federal control, the government has already reached the height of paternalism at public expense. The war emergency is over and the time has arrived to win the economic benefits of the more efficient private management.

Announcement has been made by the officials of the Quicksilver Mining Company of the consolidation of that company and the Yellow Pine Mining Company of Yellow Pine, Nevada. It is reported that they will immediately start work in the mines and equip them with the latest machinery to facilitate the extraction of the ore which they believe to be valuable.

Coast Equipment Company, Merchants Exchange, San Francisco, Cal., have been appointed representatives for the Atlas Car & Mfg. Co., for California and Nevada. All inquiries from this territory should be addressed to them.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

In view of the large number of coal mines centered about Chicago, it is planned to make the Chicago meeting to be held at the Congress Hotel, September 22-26, of especial interest to the coal industry. A large proportion of the 150 technical papers prepared for discussion will be on subjects related to coal, coal mining and coke. Among these is a carefully prepared symposium on sulphur in coal. Excursions have been arranged during the meeting that will be particularly attractive to the coal man; on Thursday the trip to LaSalle will include the inspection of operating coal mines in the district, and late on Thursday night a party will leave for the mines in Franklin and McCoupin Counties, where some novel and ingenious ideas in plant design and methods of operation have been adopted and proven practicable. The trip to the Gary Steel Mills on Tuesday will include an inspection of the immense coke ovens and by-product plant.

Metallurgists and electrical engineers will be much interested in the demonstration to be made of the production of metallic tungsten and molybdenum at the plant of the Fansteel Products Company, North Chicago, on Tuesday, September 26. As a part of the program for the Chicago meeting, an excursion has been arranged to Milwaukee to visit the various mining machinery plants in the vicinity, and a stop will be made en route at the Fansteel plant. The entire metallurgical process will be shown, from the preparation and purification of the commercial concentrates, and including sintering the pulverent metal obtained into homogeneous billets by the use of currents of enormously high amperage.

The National Exhibition of Chemical Industries is being held at the Coliseum, Chicago, the same week as the Institute meeting. Members of the Institute have been extended an invitation to attend this exhibition.

LACK OF FUNDS HALTS WORK ON MONTHLY MINERAL BULLETIN

The monthly bulletin has been issued by the Bureau of Mines for July. The work of the Minerals Investigation was carried on under a special appropriation made during the war. As this appropriation expired on June 30, a considerable part of the staff engaged in this work has had to be disbanded. It is expected that in the course of the next month or two the bulletin will be resumed in some form. In the meantime, such matter as may be available will be released at the regular time each month. The bureau believes that this work has been of value to the industries concerned, and is willing to make every effort to reorganize and maintain this work on such scale as may be possible.

CLASS I ROADS UNDER FEDERAL CONTROL, CALENDAR YEARS 1917 AND 1918

COMPILED BY H. N. LAWRIE FROM STATISTICS FROM THE RAILROAD ADMINISTRATION.

Item	1917	1918	Per cent of increase 1918 over 1917
1. Revenue passengers carried.	1,051,644,191	1,077,982,384	1.5
2. Passengers carried one-mile.	39,361,369,052	42,498,248,256	8.0
3. Average receipts per passenger-mile (cents).	2.089	2.413	15.5
4. Tonnage of mine products and oils.	*710,529,158	*705,156,452	0.6
5. Total freight tonnage originating on road †.	1,237,823,865	1,229,416,759	0.7
6. Per cent mine products to total tonnage.	57.4	57.5	
7. Tons carried one mile.	392,547,347,886	493,070,816,694	25.7
8. Average receipts per ton-mile (cent).	0.713	0.847	18.8
9. Total employees.	1,723,734	1,820,560	5.6
10. Aggregate compensation.	1,730,057,342	2,581,884,559	49.2
11. Total hours worked.	4,709,867,844	4,929,185,725	4.7
12. Traffic units‡.	510,631,455,072	530,565,561,462	3.9
13. Maintenance of way & struct. per 1000 traffic units.	\$0.87	\$1.23	41.4
14. Maintenance of equipment per 1000 traffic units.	\$1.34	\$2.09	56.0
15. Traffic unit per man employed.	296,236	291,414	1.6
16. Traffic unit per dollar of compensation.	295	205	30.5
17. Compensation per 1000 traffic units.	\$3.39	\$4.87	43.7
18. Hours worked per 1000 traffic units.	9.22	9.29	0.8
19. Passenger train cars.	52,680	53,515	1.6
20. Freight train cars.	2,284,660	2,299,840	0.7
21. Locomotives.	61,368	62,759	2.3
22. Passengers per car.	17.29	20.18	16.7
23. Tons per car.	24.75	26.97	9.0
24. Passenger-train car-miles (incl. passenger-train car-miles in mixed trains).	3,488,930,891	3,267,258,431	6.4
25. Passenger-train car-miles per pass. train car.	66,229	61,053	7.8
26. Freight-train car-miles (including freight-train car-miles in mixed trains).	23,217,023,740	22,682,630,072	2.3
27. Freight-train car-miles per freight train car.	10,162	9,863	2.9
28. Locomotive-miles (includes work service).	1,745,755,333	1,684,404,165	3.5
29. Locomotive-miles per locomotive.	28,447	26,839	5.7

* Excludes tonnage of oil products.

† Excludes a small amount of tonnage misassigned.

‡ Based upon passenger-miles and ton-miles, converting one passenger mile equivalent to three ton-miles.

[Decrease]

TARIFF STATUS SHEET

Mineral	Bill number	Introduced by	Tariff asked	Based on	Hearings	Present status
Antimony.....	HR 7193..	McGlennon (N. J.).....	10c. lb.....	Tonnage.....	After Sept.....	Ways & Means Committee.
Barytes.....	HR 7658..	Rhodes (Mo.).....	\$10 ton... 15 ton... 20 ton...	Crude Barytes..... Barium Sulphate..... Barium Compounds.....	After Sept..... After Sept.....	Ways & Means Committee. Ways & Means Committee. Ways & Means Committee.
Chromite.....	(Bill	being formulated)		Ores under 50%.....	After Sept.....	Ways & Means Committee.
Graphite.....	HR 5941..	Heflin (Ala.).....	1c. per lb.. 2c. per lb.. 3c. per lb.. 6c. per lb.. 5c. per lb.. 35c. per lb.. 75c. per lb.. ¾c. per lb..	Ores over 50%..... Refined..... Refined..... Products..... Unit Metallic Content..... Alloys Metallic Content..... Tonnage.....	..... ..... ..... ..... After Sept..... June 16-17.....	..... ..... ..... ..... ..... ..... Ways and Means recommends ore ½c. per lb., calcined ¾c. lb., brick ¾c. lb. and 10% ad valorem. Ways and Means Committee.. Ways and Means Committee.. Ways and Means Committee.. Ways and Means Committee.. Mines and Mining Committee.
Manganese.....	HR 5216..	Slemp (Va.).....		Metallic Content.....	After Sept.....	Ways and Means Committee..
Magnesite.....	HR 5218..	Hadley (Wash.).....		Ores Metallic Content..... Products Metallic Content..... Unit of Sulphur..... \$2.50-\$1.50..... per unit	After Sept..... After Sept..... After Sept..... After Sept.....	Ways and Means Committee.. Ways and Means Committee.. Ways and Means Committee.. Ways and Means Committee.. Mines and Mining Committee.
Mercury.....	HR 6658..	Lufkin (Mass.).....	35c. per lb.		.....	.....
Mica.....	None.....					
Molybdenum...	HR 7548..	Taylor (Colo.).....	40c. per lb.. 70c. per lb.. 15c. per u.. License. ...		.....	.....
Pyrites.....	HR 5215..	Slemp (Va.).....		Unit (Ore) WO³.....	June 10-11-17.. June 13-14.....	Ways and Means Committee. Passed House Aug. 21.
Potash.....	S 1022...	Henderson (Nev.).....		Products Metallic.....	.....	.....
Potash.....	HR 4870..	Fordney (Mich.).....	License.....	Zinc Ore 10 to 25%Content.	.....	Ways and Means recommends.
Sulphur.....	HR 5215..	Slemp (Va.).....	(See Pyrites)	Zinc ore over 25%.....	June 18.....	Ore Zinc 10 to 25%-¼c lb.
Tungsten.....	HR 4437..	Timberlake (Colo.).....	\$10 per unit \$1 per lb.... 1½c. lb.... 2c. lb..... 1½c. lb.... 1⅞c. lb.... 2c. lb..... 1c. lb.....	Zinc blocks pigs or dust.. Zinc sheets..... Zinc plates..... Zinc plates..... Zinc old and worn.....	..... ..... ..... ..... ..... ..... ..... .....	Ore Zinc 20 to 25%-½c. lb. Ore More than 25% up 1c. lb. Metal Zinc blocks pigs & dust 1¾c. lb. Zinc sheets 1⅝c. lb. Zinc plates 1⅝c. lb.
Zinc.....	HR 6238..	McPherson (Mo.).....				
Lead.....		(Bill being formulated.)				

NEED OF PROTECTION FOR MAGNESITE IS POINTED OUT

The House of Representatives received a determined plea for a duty on magnesite when the Committee on Ways and Means reported, in part, as follows:

"Hearings were had upon the bill to determine the question of adequate rates of duty for the protection of the magnesite industry, at which hearings testimony was offered on the part of the Tariff Commission, the Geological Survey, the Bureau of Mines, and the magnesite producers and manufacturers.

"The sworn statements of six of the largest domestic producers were filed with the committee, showing the average cost per ton, without profit, of dead burned magnesite delivered at Atlantic ports to be \$41.20 at the present time. The testimony also showed that the prewar selling price of the Austrian product, including profit, in the United States was \$16.15, making a difference between the present cost, without profit, of American magnesite laid down on the Atlantic seaboard and the prewar selling price of the Austrian product \$25.05.

"While the magnesite producers urged upon the committee that higher tariff rates are necessary than those provided in the amended bill, yet owing to the lack of showing and knowledge of future conditions in Austria with respect to this commodity, and particularly with regard to the cost of the same, and having regard to all the testimony and conditions as presented, the committee resolved the matter upon the basis of the rates specified in the amended bill. They believe that under such rates the domestic producers and manufacturers will be able to compete upon equal terms with the Austrian product.

"In this connection it appears that a quotation has been made for the delivery of Austrian magnesite f. o. b. Atlantic ports at \$26.50 per net ton, as compared with the prewar selling price of \$16.15 above referred to.

"The testimony showed that an ocean rate on Austrian magnesite has been fixed of \$7.50 per ton, as against the prewar rate of approximately \$2 per ton, and as this material is used as ballast it is possible that the ocean rate may be subsequently reduced to approximately that of normal times. On the basis of such quotation for present delivery a differential between the present Austrian selling price, including profit, and American magnesite at Atlantic ports, without profit, is \$14.50 on dead-burned magnesite, and the tariff rate of three-fourths of a cent per pound provided in the amended bill is therefore deemed adequate.

"A tariff of one-half cent per pound has been placed upon crude magnesite ore, as the testimony shows that without protecting the crude material it would be possible to defeat the object of this bill by importing crude magnesite into this country and then manufacturing it into dead-burned or calcined mag-

nesite at such a price as to prevent the production of dead-burned magnesite in this country.

"The testimony further developed the fact that it requires two tons or more of crude magnesite to make one ton of dead-burned or calcined magnesite.

"The testimony shows that magnesite brick consists only of the dead burned magnesite to which water has been added and then pressed into the form of a brick. It was, therefore, necessary to place the same specific duty on the material in the brick as upon dead burned magnesite for the reason that if the brick were imported without this duty they might be broken up and we would have in fact loose dead burned magnesite admitted without specific duty, and would thus defeat the purpose of this bill.

"It was also necessary to place an ad valorem duty of 10 per cent upon the brick in order to cover the estimated difference in cost of manufacturing magnesite brick in Austria and in the United States.

"Austria, since 1888, has been the sole dependence of the United States for magnesite as a refractory mineral—a mineral essential to our welfare in war and peace. Our basic industries, steel, copper, and lead, are dependent upon magnesite as linings for their furnaces, as there is no substitute for magnesite brick.

"The domestic industry was created during the war and on account of the war to furnish these basic industries the magnesite which they required to manufacture war essential material. Permits have already been given to import Austrian magnesite, and the life of the domestic magnesite industry is threatened unless a tariff is granted which will permit the American magnesite industry to maintain itself in competition with Austrian imports.

"The Sixty-fifth Congress passed a bill appropriating \$8,500,000 (Public No. 322, 64th Cong.) to repay the net losses of American producers of pyrites, chrome, and other essential war minerals. Only such minerals as the Interior Department had to urge the production of were included in the bill. These minerals were not dependent alone upon Austria, as in the case of magnesite. The shortage of magnesite was prevented by the prompt action of producers who, knowing the United States was dependent upon Austria alone, were able to calculate a probable shortage during the war, and the government was not compelled to stimulate production of magnesite. Had the magnesite producers failed to produce this material the government would have had to stimulate production, and then the magnesite producers would have been included in the war mineral relief bill and have been repaid for their losses. They were not included for the above reason. The proposed tariff will not repay their losses, but will give the magnesite producers an opportunity to endeavor to earn a profit on their war investment of \$3,500,000, and at the same

time furnish an essential mineral to the steel, copper, and lead industries.

"The quantity of magnesite in the United States was shown by the Geological Survey and the Bureau of Mines to be sufficient to supply requirements of our country for twenty-five or thirty years, with the probability of additional development. In 1913 only one magnesite mine was operating in the United States, located in California, which produced 9,600 tons of crude magnesite per annum. In 1917, sixty-five magnesite mines had been developed in California and Washington, which produced 316,000 tons of crude magnesite, or sufficient to supply the steel, copper, and lead industries when Austrian importations were cut off on account of war. Only about 3 per cent of the domestic consumption of magnesite was produced in this country before the war.

"It would be manifestly a most unwise national and economic policy to fail to afford adequate protection to the industry in question and to permit it to perish, thereby reducing our country again to the position of depending upon a foreign source of supply for this absolutely essential war mineral. The President, in his message to Congress of May 20, 1919, among other things said: "There are parts of our tariff system which need prompt attention. The experience of the war has made it plain that in some cases too great reliance on foreign supply is dangerous."

ANALYSIS OF CAUSES FOR HIGH COSTS OF LIVING IS GIVEN OUT

The Council of National Defense, through Secretary Baker as chairman of the council, has submitted to the President and members of Congress a full report on the concomitants of the high cost of living as surveyed by its Reconstruction Research Division—this in order that various agencies charged with consideration of this problem may take concerted remedial action.

The findings of the council indicate that the high cost of living is primarily due to curtailment in the production of nearly all commodities except raw food products, to hoarding of storage food products, to profiteering, conscious and unconscious, and to inflation of circulating credit; and that the situation may be most advantageously met by stimulated production, the repression of hoarding and profiteering, the improvement and standardization of methods and facilities for distributing and marketing goods, and the perfecting of means of keeping the nation informed regarding probable national requirements and current production and stocks.

The findings particularly emphasize the fact that high standards of living cannot be maintained upon any basis of reduced production. The report says in part:

"The problem of the high cost of living is so interrelated with other reconstruction

problems that the opening of this problem is tantamount to opening up the question of reconstruction practically in its entirety.

"An analysis of the high cost of living problem brings out the following facts and principles as constituting the essence of the situation:

"1. The only complaints of the high cost of living which have justification are those which are based upon inability of present income to maintain previous or reasonable standards of living at present prices.

"2. America's industrial and economic achievements during the war, notwithstanding depleted man power and diversion of productive effort to war purposes, demonstrate the ample ability of the nation to sustain its population according to a standard of living equal to or above standards of living which obtained previous to or during the war.

"3. The fundamental basis for the maintenance of national standards of living is adequate production, economical distribution and fair apportionment among the various economic groups which constitute our society. With the exception of agricultural activity, production since the armistice has shown evidence of curtailment, and has in general been abnormally low. Normal consumption cannot continue unless an adequate rate of production is maintained.

"4. Food production and the facilities for food production were improved rather than injured during the war. Moreover, the program with respect to food production since the signing of the armistice has been one of vigorous expansion of the means of providing raw food products.

"The number of cattle slaughtered in the period January to May, 1919, was 3,803,000, as against 4,204,000 for the corresponding period of 1918, though the national reserve of cattle on farms had increased during the war. The situation in regard to swine is similar.

"5. The production of civilian cloths and clothing has suffered heavy curtailment for many months since the signing of the armistice.

"Boot and shoe production for civilian use has likewise undergone extreme curtailment since the signing of the armistice.

"Housing facilities, due to curtailment, for many months following the armistice, of the production of building material and of building construction, is still far below normal. Rents continue to rise.

"6. The first half of 1919 shows diminished production of raw materials and subnormal construction of new capital and thus indicates failure to utilize an adequate proportion of our productive forces in the preliminary processes of provision to meet future requirements. In fact, due to business uncertainty and hesitation and tendencies to disagreement between productive groups, there ensued after the armistice a disuse of a large proportion of America's productive capacity. Unless this slump

in production is atoned for by consistent future activity, and unless production is constantly maintained on an adequate scale reduced standards of living will become inescapable, regardless of prices."

The very fact that prices of finished commodities, consumption goods so-called, have risen to an extent out of proportion to the rise in prices of raw materials and perhaps out of proportion to the rise in general wages, indicates that production carried on under these conditions is, in general, yielding profits abnormally high.

The council's report points out that one important factor in the high cost of living lies in the mistaken idea that an increase in income, even though accompanied by a real reduction in the amount of the necessities of life produced, should raise the individual standard of living. The report very carefully points out the fallacy of the belief of the individual that a raise in wages or income under present conditions should alone increase that individual's standard of living. The public does not readily realize an increase in their own income is a case of profiteering, but it should be clear that increased purchasing power, derived from reduced service, is the very essence of profiteering. It is possible on no other basis than the deprivation of others, while a general improvement of real income is possible on no other basis than increased production or improved distribution.

In pre-war times every dollar finding its way to the market was supposedly the counterpart of some existing commodity. Funds expended for the purchase of food, clothing and for the payment of rentals were assumed to have been earned by some productive contribution to the general supply of commodities. With the outbreak of war there began to appear, in the market, funds derived from wages or profits which had been paid in connection with the non-productive activities of war, and which, therefore, implied no corresponding contribution to the supply of commodities.

If current statistics were available showing production, stocks on hand and in transit for all important articles of consumption, this information would serve as an invaluable guide to both producers and distributors, as well as to the consuming public. Such information would indicate from week to week or month to month the sufficiency or insufficiency of current production and available stocks to meet future requirements.

The estimation of future national requirements of consumption goods presents certain problems that are quite capable of approximately accurate solution. The bases of such forecasts are:

1. The record of previous consumption and the law of its variation.
2. Changes in national factors tending to

alter the general trend toward increasing or decreasing national consumption.

3. Calculation based upon the average requirements of the individual family.

Erects New Plant

The Lunkenheimer Company, Cincinnati, manufacturers of valve and engineering appliances, has announced its intention to greatly increase and improve its manufacturing facilities by building a complete new plant. The site selected for the undertaking comprises about 70 acres of land in Carthage, a suburb of the city of Cincinnati, directly on the Toledo division of the Baltimore & Ohio Southwestern Railroad. The location selected is not far distant from the center of the city, is in the heart of one of the manufacturing sections of the city, where labor is plentiful and facilities for the handling of incoming and outgoing freight are ideal.

Plans for the erection of the new buildings are being prepared by capable engineers, and it is expected that work on the new structures will be started within the next few months.

Buildings will be of the one, two and three-story types, of steel and concrete construction, and there will be provided all modern devices for the manufacture, handling and transportation of raw material, part finished and finished products. The undertaking will represent an outlay of approximately \$2,000,000.

The welfare of the employes has been given special consideration. A piece of land of about 8 acres, lying directly opposite the land upon which the main plant is to be located, has been reserved as a recreation center, upon which will be erected an assembly hall, club rooms, baseball grounds, tennis courts, swimming pool, etc. Upon this site will also be erected a dining room capable of accommodating 1,000 employes at one time.

The Lunkenheimer Company moved to its present location in North Fairmount, Cincinnati, about the year 1900, the plant then comprising two manufacturing buildings, since which time many additional buildings have been erected. Having outgrown its present plant, being sorely in need of additional manufacturing facilities, and there being no more property available in the north Fairmount section, the company determined that the best plan was to acquire acreage property, with a view to providing for the future as well as present, necessary expansion. The new plant, when complete, will contain about three times as much floor space as now used by the company.

Arrangements are being made so that there will be no interruption to the business of the company while the building operations are in progress, nor while the task of moving into the new plant is under way.

INTEREST IN OIL INDUSTRY
UNPRECEDENTED—THE SITUATION

A general summary of the petroleum situation by J. O. Lewis, of the Bureau of Mines, follows:

"There is at the present time a world-wide interest in the oil situation. This has been induced as a result of the war calling attention very strongly to the need of petroleum and its products, both in a military and a commercial sense. These products are principally: Gasoline for automobiles, farm tractors, trucks, aeroplanes, motor boats, etc.; fuel oil for marine propulsion, metallurgical processes, and internal-combustion engines of the Deisel type; and lubricants for all machinery, for which there is no satisfactory substitute quantitatively known. As a result there is great commercial and political interest in petroleum. The British and French governments have taken very strong and active stands in adopting programs towards acquiring sources of supply and in protecting their nationals within their domains and spheres of influence. Commercially there has been a tremendous interest both in Europe and in the United States. This interest has taken the direction of the formation of consolidations backed by large capital and explorations both at home and abroad and the usual side growth of such movements—the formation of many ill-conceived and dishonest promotions in which the public has invested extensively.

"Development in the United States is very active. The prices of crude oil have remained practically constant since the entrance of the United States into the world war, but the future is generally considered so promising commercially by the industry that every effort has been made towards finding new fields, and bringing old fields to a high stage of development has received very wide recognition and prospecting for oil is conducted almost entirely by the large companies upon geological advice. At the present time the chief center of interest is the Paleozoic belt in Texas and the Cretaceous formations in Wyoming. Prospecting is, however, going on extensively in Louisiana, Arizona, New Mexico, Utah, Montana and other states.

"At the present time the principal domestic

source is in the Mid-Continent field, which extends from Kansas through Oklahoma into northern Texas and Louisiana. This district is producing now more than half a million barrels of oil daily, being more than half of the total production of the United States. This oil averages above the rest of the country in quality and the proportion of gasoline obtained from this district is between 60 per cent and 70 per cent of that obtained from the total production of the United States. The production of Oklahoma has declined slightly and that of Kansas has declined greatly since last year, while the production in Texas, particularly in the Paleozoic zones, has largely increased over that of last year, with a present daily production of close to 300,000 barrels. The oil from northern Texas is of an especially high grade and contains a high percentage of gasoline. The prospects are for extending the production considerably in Texas. At the present time the Texas district is supplying our increased needs for gasoline and other products.

"In California, considerable new territory of great promise has been recently developed in the southern part of the state and in the Elk Hills district in Kern County. The latter district is on a geological structure of great size that formerly had been practically condemned, through misunderstanding of the proper drilling methods in such territory. The district is, however, closed to public entry except in a small part, by reason of the establishment of the Naval Reserve and litigation over railroad lands.

"During 1918 some thirty-eight million barrels of oil was imported from Mexico. Imports have been greatly increased during the first half of 1919, and they can be still further extended, according to the need of the United States, as it is chiefly a matter of demand and transportation. A great deal of interest is being displayed in establishing refineries on the Gulf Coast of the Atlantic seaboard to handle Mexican oil, the intention being to export Mexican oil and take off the gasoline and other desirable products, selling the residuum for fuel oil. Refineries for this purpose are being established as follows (figures show initial daily capacity):

	<i>Barrels</i>
Atlantic Refining Company, Brunswick, Ga.....	3,000
Standard Oil Company of New York, Providence, R. I.....	
Mexican Petroleum Company, Baltimore, Md.....	
Standard Oil Company of New Jersey, Charleston, S. C.....	7,500
Standard Oil Company of Ohio, Toledo, Ohio.....	10,000
Roxana Petroleum Company, New Orleans, La.....	
Crown Oil and Refining Company, Houston, Texas.....	5,000
Ohio Cities Gas Company, Newark, Ohio.....	3,000
Sinclair Gulf Corporation, Houston, Texas.....	5,000
Evans-Thwing Refining Company, Fort Worth, Texas.....	5,000
Union Oil Company, San Pedro, Cal.....	10,000
Humble Oil & Refining Company, Houston, Texas.....	10,000
Inland Refining Company, Fort Worth, Texas.....	5,000

"In regard to the petroleum products: Gasoline has remained practically stationary in price during the last two years, with the local tendencies towards cuts in prices; kerosene has increased in price; fuel oil, since the signing of the armistice, has decreased very greatly in price, and its disposal at the present time constitutes the most serious problem in the refinery business east of the Rocky Mountains. There has been a considerable decrease in the price of crude oil in the Gulf Coast fields, where the oil is of low gasoline content, also in the price of Mexican crude oil and for fuel oil distillate from the eastern refineries. Active steps are being taken to establish a wider market for fuel oil, and it is at the present time competing very actively with coal for steam generation along the Atlantic seaboard, particularly in New England. It is anticipated that the completion of the refineries for handling Mexican oil on the Atlantic seaports will induce still stronger competition with coal in our seaports.

"During the late summer and winter of 1918 the stocks of gasoline became reduced to a dangerous minimum. These have been building up during 1919 as a result of increased production and the readjustment since war conditions. The daily average production of gasoline during the month of May was, in 1917, 7,703,749 gallons; in 1918, 10,302,942 gallons; in 1919, 11,434,593 gallons. Stocks have increased from 460,637,479 in May, 1918, to 594,035,688 in May, 1919. Kerosene stocks have, however, decreased greatly, from 343,000,000 gallons to 245,000,000 gallons. Gas and fuel oil stocks have increased from 515,000,000 to 759,000,000 gallons."

COAL CAR SUPPLY IS BASIS OF CONFLICTING CONTENTIONS

The coal car supply has become a bone of contention between coal operators and the Railroad Administration. The Director General of Railroads, replying to a request by the Senate, said, in part:

"During the first five months of the present year open-top cars were regularly available greatly in excess of shippers' orders for the same. The maximum was reached in February and March, when the surplus of open-top cars daily available amounted to the extraordinary totals of 187,339 and 192,933, respectively.

"There has at no time been any shortage of cars for anthracite coal loading.

"As to bituminous coal, there occurred in June a slight shortage in Southern West Virginia, Eastern Ohio and Western Pennsylvania due to an accumulation of cars in lake coal trade, and increased detention of such cars under load at Lake Erie ports awaiting vessels, and also to a strike of railroad shopmen on the Norfolk & Western Railroad.

"Since about July 15, 1919, coincident with a marked upward trend in production, there have been some shortages of cars for loading

with bituminous coal in some producing districts, mainly in Eastern Kentucky, Virginia, West Virginia, Maryland and Pennsylvania, and usually in districts producing the higher grades of coal. A strike of marine workers on coastwise ships, floods and other operating difficulties have contributed to these shortages. Contemporaneously, however, there still exist slight surpluses of open-top cars in some sections, principally in the west.

"Exhibit 'B,' which is attached hereto, shows comparatively for 1919, as far as available, the weekly reports by the Geological Survey of percentage of full-time operation lost by bituminous coal mines in the United States, and the cause of such loss, and indicates that up to July 12 the loss on account of 'car shortages' was a very minor one and relatively much less than that from 'mine causes' and 'no market.' The survey's detailed reports show this information weekly by producing districts and indicate the district situation to be as above stated.

"Some of the practical considerations which will affect the production and transportation of coal during the remainder of this calendar year are the following:

"The ability of the railroads to transport all the bituminous coal required for the rest of this year will, of course, be largely dependent upon the amount required. On that point no accurate information seems to be available. The National Coal Association, however, has advertised that 500,000,000 tons of bituminous coal must be produced in the calendar year 1919 to meet the requirements of the country. This estimate of 500,000,000 tons is just about the production of 1916, a year of great industrial activity, with normal winter weather and normal storage of coal to begin with, whereas in 1919 the year began with storage piles greatly exceeding normal, winter weather was the mildest in history, and industrial activity, due to the readjustment of business following the war, has been at a very low ebb for months. Another element to be kept in mind in estimating the prospective tonnage for which transportation must be furnished is the export movement, of which much has been said to indicate that the tonnage will be large, but with respect to which there is little accurate information readily available.

"It may be noted that during the first six months of 1919 the coal consumption by railroads was about 26,000,000 tons less than in the corresponding period of 1918, during which latter year the fuel coal consumption by railroads aggregated 154,000,000 tons for the twelve months.

"If 500,000,000 tons shall be needed in the present year, the prospects are that its transportation will be accompanied by difficulties, and, especially in view of the heavy business to be expected this fall, it will be exceedingly difficult to transport the amount required. These difficulties will not be due primarily or principally to the car shortage, but rather to

the fact that an abnormal demand for coal will be concentrated into an unusually short period, when the necessary use of the railroads for other purposes will make it difficult to handle the coal.

"If it be assumed that 500,000,000 tons of bituminous coal must be produced during the present year, and we deduct the 250,000,000 tons already produced (according to reports of Geological Survey) to July 26, it will be necessary during the remainder of the year to produce 11,340,000 tons weekly. When we consider what has been done in former years, and especially the maximum which was produced last year under the war influences which enlarged production as well as increased transportation, it is apparent that serious difficulties will be encountered both in the production and in the transportation of the amount of coal necessary in order to produce 500,000,000 tons for the entire calendar year 1919.

OPEN-TOP CARS					
	55-ton hopper	Com. Gond.	70-ton hopper	70-ton low side	Total
Number ordered	22,000	20,000	3,000	5,000	50,000
Completed and in service August 26.....	12,935	8,051	762	2,397	24,145
Completed and in storage August 26 (the numbering and placing of these cars in service is now in progress).....	8,186	8,498	.....	794	17,478
To be built.....	879	3,451	2,238	1,809	8,377

"It is highly important to remember that shortage in coal will largely be due to conditions of production having no reference to transportation. For example, in the case of anthracite coal the predominant cause of failure to produce up to the capacity of the mines is shortage of labor, because there has been no shortage of transportation. The same condition is true with respect to bituminous mines in certain fields producing the higher grades of such coal, although at present, shortage of transportation has become a factor in those fields. During the year 1918 extraordinary efforts were made by the government to obtain maximum production and to keep sufficient miners at work and to keep them working under sufficiently high pressure as a measure of patriotism to accomplish this result. The changed conditions in these respects this year may easily limit production in ways having no connection with transportation. These are matters, however, outside the field of the Railroad Administration and are merely suggested without effort to discuss them exhaustively.

"The details of car supply as of August 26 follow. Of the total of 50,000 open-top cars mentioned, 45,000 are available for coal loading.

"The cars shown as being in storage are being numbered by the car works and placed

in service at the rate of 250 to 275 per day. The railroad shops have been called upon to assist in numbering such cars, and this will increase the daily number of such cars placed in service hereafter. The cars shown as yet to be built are being built and placed in service at the rate of 75 per day, so that from 325 to 350 cars of this class are being put into service daily.

"The composite gondolas are being delayed because two of the large plants have been on strike for the last month and consequently are turning out very few.

"Two plants are building 70-ton low-side cars. One is now on strike."

CALLAHAN'S STATEMENT

In discussing the car situation before the Senate investigating committee, John Callahan, the traffic manager of the National Coal Association, said in part:

"It is our opinion that the United States Railroad Administration is not furnishing enough transportation for bituminous coal to ensure the production and shipment of sufficient coal to meet the requirements of the nation this year. A great deal has been said already about the requirements of the coal industry, from the car supply standpoint; that is, the necessity of coal having cars awaiting it at the mouth of the mine. For purposes of continuity I would like to say again that it is absolutely necessary when coal is brought to the surface of the earth that railroad cars be there to transport it to its place of destination. I would like to say at this time also that it is to be clearly understood that the difficulty today is on account of a transportation deficiency and not a car shortage alone. There is transportation deficiency in addition to a car shortage. It is true that there are some districts in this country receiving sufficient coal cars today, but those districts are the exceptions. The principal coal producing territories, especially those which serve the large industrial districts, are short of cars at this time. There are many, many mines idle on account of no cars today. One day in July 97 mines were idle in the West Virginia district, and for the whole week 285 mines were idle in this district, while neighboring districts had a car supply which did not permit half-time operations."

NATIONAL LEGISLATION

The avalanche of legislation which poured in upon both houses of Congress during this extraordinary session has materially slowed down. But comparatively few bills have been introduced during the last month.

There has been some highly important and significant action on some of the bills already before the House. The Timberlake tungsten bill—H. R. 4437—proposing a tariff of \$10.00 per unit on tungsten ore and \$1.00 per pound on products and alloys, was recommended favorably by the Ways and Means Committee. An amendment was added at the last moment by Mr. Green, of Iowa, to provide a tax for foreign ores now in this country or to be imported which represented a cost of less than \$17.00 per unit; the tax being the difference between the actual cost and \$17.00 per unit. The bill, with this amendment, passed the House by a vote of 173 for and 121 against, and is now before the Senate and referred to the Senate Committee on Finance.

Mr. Hadley's bill for tariff on magnesite—H. R. 5218—was favorably recommended by the Ways and Means Committee, with the following amendments and alterations: One-half cent per pound tariff on ore, calcined and dead burned magnesite $\frac{3}{4}$ cent per pound, magnesite brick and products $\frac{3}{4}$ cent per pound plus 10 per cent ad valorem. This bill is now before the House with the above provisions for the protection by tariff and will be put to vote at an early date.

H. R. 2706, being a bill for tariff on dye-stuffs introduced by Mr. Longworth, was favorably reported to the House August 2.

Neither of the two potash bills—S. 1022, introduced by Senator Henderson, or H. R. 4870, introduced by Mr. Fordney—have been reported out of the Ways and Means Committee.

Mr. Smoot's bill—S. 2129—to provide for the repayment of commissions and excess payments on purchase money on public lands, passed the Senate August 2, as also did Mr. Smoot's bill—S. 1729—permitting minors under the age of 18 years to make homestead entries on public lands of the United States.

The Secretary of the Interior favorably recommended S. 1257, being Mr. Myers' bill to provide for agricultural entries on coal lands, and S. 2189, being Mr. Smoot's bill to provide for agricultural entries on coal lands in Alaska.

S. 2822, Reclamation appropriation bill. This bill, introduced by Mr. Jones of Washington, proposes to appropriate the sum of \$250,000,000 to be expended under the terms of the reclamation act already in effect, to continue uncompleted work and to begin new work. This bill referred to the Committee on Irrigation and Reclamation of Arid Lands.

Railroads

S. 2889: Introduced by Mr. Lenroot, provides for the creation and organization of the National Railway Corporation and for the acquisition, control and operation of railroads and water carriers. This to be effected through a corporation to be formed by eleven appointees of the President of the United States—one from the Interstate Commerce Commission, one from the National Association of Railway and Utilities Commissioners, two from the representatives of the employes, two from representatives of the Chamber of Commerce of the United States, two from representatives of farmers and agricultural associations, three from representatives of stockholders of the corporation. The eleven incorporators shall constitute the first Board of Directors—representatives of the employes holding office for two years, representatives of the stockholders for four years, and the remainder for six, eight and ten years, respectively. Thereafter, each director shall be appointed for a term of ten years. The directors shall not engage in any other business or employment and shall receive a salary of \$20,000 per annum and all necessary expenses. The corporation shall at once begin to acquire railroads and lease water carriers to the end that, as promptly as possible, all railroads and water carriers shall be owned and controlled by the corporation. Capital stock shall be issued to bear rate of dividend not less than 3½ per cent and not higher than 6 per cent annual dividend. Proceeds from the sale of such capital stock to be used in acquiring railroads and water carriers. Railroads may be acquired by purchase of the physical assets or the majority of the capital stock, by purchase of bonds or other securities, or by condemnation proceedings. All income above actual expenses and fixed charges shall be distributed as follows: Forty per cent to labor, 30 per cent to stockholders and 30 per cent to the Government of the United States. There shall be connected with this organization an Economy and Efficiency Board to supervise actual operation, made up of appointees by the President of the United States as follows: One proposed by the American Railway Engineer Association, one proposed by the American Society of Chemical Engineers, one proposed by the American Institute of Electrical Engineers, one proposed by the American Association of Civil Engineers, one representing the employes. Each member of this board shall receive a salary of \$15,000 per year and shall serve for two, four, six, eight and ten years, respectively, and thereafter shall be appointed for a term of ten years. This board has no jurisdiction over rates, wages, hours of labor, working conditions, or financial conditions of operations of

the corporation. This bill is referred to the Committee on Interstate Commerce.

H. R. 8157: Introduced by Mr. Sims and referred to the Committee on Interstate and Foreign Commerce. The bill provides for the creation of an Appraisement Board composed of the members of the Interstate Commerce Commission and three other members to be selected by the Board of Directors of the National Railways Operating Corporation, which is created by the act; one from the group of directors elected by the official employees; one from the group elected by the classified employees and one from the group appointed by the President of the United States. The board shall elect its own chairman for such a term as it may determine. Each member of the board receives a salary of \$10,000 per year in addition to the compensation received as a member of the Interstate Commerce Commission or as a director of the National Railways Operating Corporation. This board is empowered to ascertain the amount of compensation to be paid by the United States to the corporate and individual owners of the several transportation properties and also to determine the compensation to be paid to the owners of the properties for manufacturing or repairing, purchase and distribution of stores and supplies, which may be deemed necessary in the operation or extension of transportation properties. In the determination of the amount of compensation to be paid to the owners of transportation properties, the board is to ascertain the value of all the rights, property interests, powers, authorities and privileges granted in and acquired under the charters of the several corporate owners and the laws under which they operate.

All values not included in the grants made in the charters shall be regarded as values retained by the public in the public highways of the United States and not subject to compensation. In the event that the majority of the Appraisement Board fails to agree as to the amount of compensation to be paid, the chairman of the board shall fix the amount, and this amount shall be final and conclusive, subject to the right of judicial review.

The employees of the Appraisement Board come under the direction of the chairman of the board, their compensation being approved by the Secretary of the Treasury. For the purposes of paying the compensation, the Secretary of the Treasury is authorized to issue bonds in such form and subject to such terms of issue, conversion, redemption, maturities, payment and rate and time of payment of interest as the Secretary of the Treasury may prescribe. The principal and interest are payable in gold, but such bonds shall not bear the circulation privilege.

The bill creates in the Treasury a cumulative sinking fund for the retirement of all bonds issued and outstanding under this act. The sinking fund and all additions thereto are appropriated for the payment of such bonds

at maturity or for the redemption or purchase thereof before maturity at such prices and upon such terms and conditions as may be prescribed in the bonds. The sinking fund is to exist until all the bonds are retired.

There is appropriated out of the operating revenue of the National Railways Operation Corporation an amount equal to 1 per cent per annum upon the aggregate amount of bonds outstanding on July 1st of each year, and provides that the annual payment into such sinking fund shall in no year be diminished because of the retirement of bonds previously outstanding. The Secretary of the Treasury must submit to Congress at the beginning of each regular session a separate annual report of the action taken by him under this authority.

The National Railways Operating Corporation has the power to build new extensions and capital improvements, including the construction of railroads along such routes as they shall deem necessary. The bill provides that, in the purchase of public lands hereafter taken up or entered upon, there shall be expressed that there is reserved to the United States the right of way for the construction of railroads, telegraph and telephone lines to such extent on either side of the center line of any such road as the Appraisement Board may deem necessary. The extension of railroad lines in new territory shall be not only by the expenditure of capital funds by the United States, but also by the exercise of power of taxation whereby such territory benefited shall contribute its portion to the cost of the extensions. If a certain region desires its own railway facilities and organizes under the local or regional special assessment laws and will assume that part of the cost of the construction and equipment of the new extension which may be apportioned to it by the Appraisement Board, and will provide such part of the whole cost allotted to it by the board, the building of such extensions by the United States at the specified sharing of costs shall be deemed by the Appraisement Board to be imperative. If the board shall deem it requisite to the public welfare to build an extension through territory which would receive no benefit therefrom, the total cost of construction shall fall upon the public.

The board is required to make a report to the President and to both houses of Congress annually and at any time either may desire a report. Any government employe or official, any member of the board or employees of the board, any director, official employe, or classified employe who shall receive any consideration or benefit either directly or indirectly in excess of his wages authorized by this act, out of the operation of said railways or for any railway undertaking, or by any form of inducement that could influence official action, shall upon official conviction be subject to a penalty of ten times the value of the consideration received and to imprisonment for a term of from one to twenty years.

The National Railways Operating Corporation is created for a term of 100 years. The corporation may hold and own the property, rights and privileges permitted by this charter, and in its name may sue and be sued.

The affairs of the corporation shall be administered by a board of directors of 15 members, to be selected in the following manner: Five directors shall be elected by the classified employes of the railway lines and properties of the United States and its possessions below the grade of appointed officials; five of the directors shall be elected by the official employes of the lines and properties, and five, one of whom shall be designated as chairman and appointed by the President of the United States, by and with the advice and consent of the Senate; not more than three of said appointees shall belong to one political party. The members of each group of five directors are appointed for terms of two, four, six, eight and ten years, their terms thereafter overlapping and for ten years each. The elected directors shall be subject to recall by their electors and the appointed directors to removal by the President for inability or misconduct. Any society of workers, all or some of whose members are wholly or partly employes on the railway lines of the Federal Government, or in any other manner employed by the corporation, may be registered or constitute themselves a trade union and may do anything individually or in combination which the members of a trade union may lawfully do.

It shall be lawful for any person employed under this act to participate in any civil or political action in like manner as if the person were not employed by this corporation, and no person shall suffer dismissal or any deprivation of any kind as a consequence of any political or industrial action not forbidden by the terms of his employment.

The territory of the United States and its possessions is to be divided into operating districts, and shall in each district constitute a District Railway Council, which shall be elected as follows: One-third of the members of the council shall be elected by the classified employes; one-third by the official employes, and one-third by the Board of Directors, one of whom shall be designated as chairman. These members are appointed for terms of one, two, three, four and five years and thereafter for five years each, their terms overlapping.

The corporation is empowered to lease, operate and maintain as a single system all of the railway lines and transportation properties of the United States, shall fix the rates, fares, tolls, dues and charges (under the direction of the Interstate Commerce Commission), shall fix salaries, wages and remuneration and conditions of employment, etc. The corporation is under obligation to produce the highest possible efficiency and economy consistent with good service and that with the working capital and revenues placed in its hands it

shall be obliged to pay all expenses for labor and materials incidental to the proper operation, to provide funds for maintenance and renewals of lines as may be deemed proper from time to time by the Interstate Commerce Commission; to pay out of the operating income semi-annually to the Treasurer of the United States the amount found to be due for sinking fund. All operating revenues received by the corporation in any fiscal year in excess of the amount required to meet the expenditures are declared to be "net earnings." The corporation shall retain the amounts prescribed to be expended for maintenance and renewals and shall at the close of each fiscal year pay into the Treasury of the United States one-half of the net earnings accrued. The remaining one-half of the net earnings is to be retained by the corporation as its corporate funds. The funds from net earnings so paid into the Treasury of the United States shall be held for disbursement only on order of the Appraisement Board to pay for extensions and betterments, for which funds shall be used before capital funds shall become available therefor and accumulation thereof in excess of \$500,000,000 shall be automatically transferred to the sinking fund. The net earnings retained by the corporation are declared to be a trust fund, to be declared as a dividend upon the amounts paid to the labor employed by the corporation, every classified employe receiving that proportion of the dividend accruing to the classified employe which his annual compensation bears to the total compensation of all classified employes, and every official employe receiving that proportion of the dividend accruing to official employes which his annual compensation bears to the total compensation of all official employes, but every official employe receiving twice the rate of dividend that is given to the classified employe.

Whenever the total amount of the net earnings paid into the Treasury of the United States shall exceed 5 per centum of the gross operating revenue, the Interstate Commerce Commission shall adjust the scale of rates in such manner as to absorb the sum, thereby producing a reduction in rates, these rates to be the minimum rates to be charged by the corporation until the next succeeding revision.

The Board of Directors shall create by negotiation with the employes, through their duly elected and authorized representatives, not less than three boards of adjustment, to consist of not less than eight members each, one-half of whom shall be selected by and from the classified employes coming within the jurisdiction of the several boards, and the other one-half selected from the official employes. These boards shall be classified in their jurisdiction over bodies of employes in such manner as the Board of Directors by negotiation with the employes may determine. They shall hear and determine all controversies growing out of the interpretation of

established wage rates and all other disputes arising between official employees and classified employees. The decisions of these boards are to be final except when no majority decision can be obtained, when they may have the right to appeal to the Board of Directors. The Board of Directors is authorized to create a central board of wages and working conditions, one-half from the official employees and one-half selected by and from the classified employees. It is the duty of this board to investigate and determine matters presented by official and classified employees respecting the question of salaries, wages, hours and other conditions of employment throughout the unified railway system. The decisions of this board shall be final, except when no majority decision can be obtained, when they have the right to appeal to the Board of Directors.

H. R. 8690: Homestead Relief Bill, introduced by Mr. Taylor of Colorado, provides that any homestead entryman on 160 acres or less of lands may file additional entries under provisions of stock raising homestead act, to make total holdings of not to exceed 640 acres, or additional entry under enlarged homestead act to make total holdings not exceeding 320 acres. This bill referred to the Committee on Public Lands.

H. R. 8624: Food and Fuel Administration, reported by Mr. Haugen from the Committee on Agriculture, proposes an amendment to the food and fuel administration bill of August 10, 1917, and makes it further unlawful to destroy, restrict the supply or distribution, or lessen manufacture or production of any necessities of life and proposes a fine of \$5,000 or imprisonment of not more than two years for violations of the provisions of the original act, and further provisions of this act. This bill exempts from the penalties of this act any agriculturist who is an original producer of foods.

H. R. 8580: To reserve lands needful for municipal water supply. This bill proposes to authorize the President to reserve and set aside either mineral or non-mineral lands of the United States which are essential for the protection of water supply of any municipality making application for such reservation. Bill referred to the Committee on Public Lands.

Treaty Making

H. J. Res. 164: Vesting the Power of Treaty Making in Both the Senate and House of Representatives.—Introduced by Mr. Griffin and referred to the Committee on the Judiciary. The resolution provides that Article II of the Constitution of the United States be so amended that the power of treaty

making shall be vested in the House of Representatives jointly with the Senate.

H. J. Res. 166: Introduced by Mr. James and referred to the Committee on the Judiciary. This resolution provides an amendment to the Constitution whereby Congress shall be forbidden to conscript armies to serve outside the United States to execute the orders of any international body or tribunal.

Taxation

H. R. 7915: Introduced by Mr. Timberlake and referred to the Committee on Ways and Means. The bill amends Section 800 of the Revenue Act of 1918, as follows:

(6) A tax of 1½ cents for each 10 cents or fraction thereof of the amount paid for admission to any public performance for profit at any roof garden, cabaret or other similar entertainment, to which the charge for admission is wholly or in part included in the price paid for refreshment, service or merchandise, the amount paid for such admission to be deemed to be 20 per centum of the amount paid for refreshment, service or merchandise; such tax to be paid by the person paying for such refreshment, service or merchandise.

However, no tax shall be levied on any amount paid for admission to and within permanently located outdoor recreation amusement places the maximum charge for which is 25 cents.

H. J. Res. 150: Annual Assessment. Introduced by Mr. Hawley and referred to the Committee on Mines and Mining, from which committee it was reported July 28, with amendments. The bill as originally reviewed by us carried the words, "Providing further that this resolution shall not apply to oil, oil locations or claims." This was stricken out in committee. However, the resolution passed both houses and has been signed by the President.

Tariff

H. R. 8078: To Regulate the Importation of Coal-Tar Products. Introduced July 31 by Mr. Longworth and referred to the Committee on Ways and Means. The committee referred the bill back to the House on August 1 without amendment. This bill has been reviewed in the columns of the MINING CONGRESS JOURNAL.

Famous Mine Worked Out

Due to the low tenor of the ore at the Granby Consolidated Mining, Smelting & Power Company's Phoenix plant, operations have come to an end there. During the past twenty years 271,079,000 pounds of copper have been produced by that plant.—Bureau of Mines and Mineral Investigations.

Arid Lands

H. R. 8864: Introduced by Mr. Raker and referred to the Committee on Arid Lands. The bill provides that the Secretary of the Interior shall grant to any person or corporation the exclusive right for the period of two years to drill or explore for water beneath the surface of not exceeding 2,560 acres of arid, unreserved, unappropriated, non-mineral, non-timbered public lands of the United States, in the State of California, lying east of the Sierra Nevada Mountains.

Soldiers and Public Lands

H. R. 8820: The Soldiers' and Sailors' Farm Settlement Act, introduced by Mr. McFadden, provides members of military and naval forces with capital for farm settlements after discharge from service or being placed on inactive duty. The amount to be loaned to each individual shall not exceed \$6,000 nor be less than \$100. It is proposed to appropriate \$100,000,000 for this purpose to be made available through the Federal Farm Loan Board. Referred to the Committee on Banking and Currency.

Oil Shale

S. 2671: Introduced by Mr. Henderson and referred to the Committee on Mines and Mining. The bill authorizes the Secretary of the Interior to make experiments and investigations through the Bureau of Mines of oil shale, to determine the commercial and economic practicability of its utilization as a commercial product. One hundred and forty thousand dollars is appropriated to carry on the expense of the investigation.

S. 2722: Introduced by Mr. King and referred to the Committee on Mines and Mining. The bill appropriates \$500,000 to be expended under the direction of the Secretary of the Interior for the erection of an experimental petroleum shale refining plant at Ogden, Utah, for the purpose of investigating and developing the methods for the extraction of petroleum from oil shale. The work of investigation, experimentation and development is to be under the supervision of the Bureau of Mines.

High Cost of Living

H. J. Res. 174: Introduced by Mr. Riddick and referred to the Committee on Agriculture. The resolution is as follows:

Requesting the President to employ the means directly within his power to relieve the people of the United States from the high cost of living imposed by administrative methods.

Whereas the primary causes of the high cost of living, due to and correctible by administrative action are:

1. Government extravagance and waste, creating fictitious prices and causing heavy taxation to be loaded on the cost of the necessities of life.

2. The purchase and hoarding by the War Department of vast quantities of food, clothing and other materials acquired at profiteer prices and causing general prices to rise in sympathy.

3. The exportation in vast quantities of necessities for the relief of foreign populations, thus decreasing the supply of staples in the United States.

4. The continued inflation of the currency under the Federal Reserve Act, causing a depreciation of the value of the dollar.

5. The encumbering of the pay roll with hordes of unnecessary and unproductive government employes.

6. The failure and refusal of the administration to enforce existing federal statutes prohibiting combinations in unfair restraint of trade.

H. R. 8261: Introduced by Mr. Sumners and referred to the Committee on Agriculture. The bill provides for the establishment of a farm produce exchange, with such branches as may be necessary, to be conducted by the Department of Agriculture. The Secretary of Agriculture shall keep advised with the details of the quantity, quality, location and price of agricultural products, and the volume and location of demand in the United States and abroad, and the price at which such products may be sold, and shall make such information available to the producer and purchaser of such products, and shall endeavor to bring about such system in the sale and distribution of such products as shall eliminate the waste and extremes in prices resulting from the present lack of system.

Business License

H. R. 8315: Introduced by Mr. Siegel and referred to the Committee on Interstate and Foreign Commerce. The bill requires that every person in the United States, before transacting business either as manufacturer, jobber, wholesaler or retailer, shall be required to obtain, from the collector of the district wherein he transacts business, a license or permit to transact business for the period of one year. It also provides that if any person engaged in business shall fail to mark his goods plainly with the actual cost of the article and the price at which it shall be sold he shall be guilty of profiteering and shall be subject to a fine of not to exceed \$5,000, imprisonment for more than two years, or both.

H. Res. 229: Introduced by Mr. Flood and referred to the Committee on Interstate and Foreign Commerce. The resolution author-

izes the Federal Trade Commission to inquire into the price of fertilizer and all classes of farm machinery, to ascertain the manufacturers' cost price, the retailers' cost and selling prices, and report to the House of Representatives at the earliest possible date the result of such investigation.

Coal.—H. R. 8115: Introduced by Mr. Huddleston and referred to the Committee on the Judiciary. The bill intends to provide for the encouraging of the distribution of necessities, preventing their sale at excessive prices, punishing conspiracies relating to excessive prices and regulating distribution and sale of necessities. The provisions of the act cease to be in effect at the expiration of five years after the termination of the war between the United States and Germany. A fine of \$5,000 or imprisonment for not more than five years, or both, is provided for failure to act in accordance with the provisions of the act, which provides for a War Trade Commission composed of five members to be appointed by the President without confirmation by the Senate, each member to receive an annual salary of \$5,000 and to hold office during the will of the President. The commission is authorized to appoint agents and employees at its discretion, to fix the maximum sale, use and service prices for necessities, to adopt regulations for the distribution, transportation and handling of same, and to license dealers, agents, etc. The bill makes it unlawful for any person to sell, either directly or indirectly, any necessary at a price greater than the maximum price fixed by the War Trade Commission, or if no price has been fixed by the commission, to sell for a greater amount than such necessary was sold for on November 11, 1918. It makes necessary the marking in legible, plain figures the original cost of the article and the selling price thereof. The bill appropriates \$1,000,000.

Food, Fuel and Necessaries.—H. R. 8126: Introduced by Mr. James and referred to the Committee on Appropriations. The bill authorizes the President of the United States to requisition food, fuel and other necessities and to sell same at reasonable prices to the public. The President shall have the power to requisition storage facilities for such supplies, and he shall ascertain and pay a just compensation for such necessities. If the compensation is not satisfactory to the person who receives it, they shall be paid 75 per cent of the amount determined by the President and shall be entitled to sue the United States to recover such further sum as will make up the amount which they believe to be just compensation. The President is directed to sell at reasonable prices such food, fuel and other necessities, which shall be distributed through the Parcel Post service. For the purpose of carrying out the provisions of the

bill, \$10,000,000 is appropriated. The President is authorized to make regulations and to use such means and agencies of the government as in his discretion he may deem best. Any money received by the United States in connection with the disposal of such necessities shall be used as a revolving fund to further carry out the purposes of the act.

Labor

International Conference.—S. J. Res. 80: Introduced by Mr. Kenyon and referred to the Committee on Foreign Relations. The bill authorizes the President to convene and make arrangements for the organization of the first meeting of an International Labor Conference, and appoint delegates thereto. This bill is similar to H. J. Res. 171, introduced by Mr. Gould, except that it provides that the President shall not appoint delegates to represent the United States at the meeting, or authorize the United States to participate therein unless the Senate shall ratify the provisions of the proposed treaty of peace, with reference to such general International Labor Conference.

International Conference.—H. J. Res. 171: Introduced by Mr. Gould and referred to the Committee on Foreign Affairs. The resolution provides that the President of the United States be authorized to convene and make the arrangements for the organization in October, 1919, for a meeting of an International Conference of business men and employers, and to appoint delegates thereto and to invite the representatives of the allied and associated powers and Germany to participate.

War Minerals Producers

H. J. Res. 170: Introduced by Mr. Garland and referred to the Committee on Mines and Mining. The resolution provides for the equitable administration of Section 5 of the act of March 2, 1919, providing for relief for war minerals producers as intended by Congress, and to limit the liability of the government thereunder to the appropriation already made. The resolution is as follows:

Whereas, in Section 5 of the act of March 2, 1919 (Fortieth Statutes, page 1272), provision was made to repay producers of chrome, tungsten, manganese and pyrites net losses suffered by them in an effort to comply with the requests or demands of the government agencies therein to produce the said minerals required by the exigencies of the war and appropriating the sum of \$8,500,000 therefor; and

Whereas, under the said act claims were filed in a total sum in excess of \$15,000,000; and

Whereas, it was intended in the passage of said act that all producers of the minerals mentioned should be repaid such sums as they

were in equity and good faith entitled; and

Whereas, under the said act, as construed by the Attorney General of the United States and as interpreted by the commission appointed to administer said act, relief will be denied to many claimants for whom Congress intended to provide: Therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That a liberal interpretation be adopted in the administration of said act, and that all those claimants who in response to any personal, written or published request or demand from any of the governmental agencies mentioned in said act in good faith expended money in producing or preparing to produce any of the ores or minerals named therein in their usual or requisite commercial form, for the purposes described in said act, and have therefore filed their claims within the time and in the manner prescribed in said act, be reimbursed such net losses as they be found to have incurred and are in equity entitled from the appropriation provided in said act; but in the event that said appropriation is not sufficient to liquidate all claims allowed in accordance herewith, such claims shall be paid a pro rata share of the appropriation provided in said act.

SEC. 2. That 50 per centum of the amount of any adjudicated claim shall without prejudice be paid immediately after adjudication.

Public Lands

H. R. 7981: Introduced by Mr. Vaile and referred to the Committee on Mines and Mining, providing that where public lands containing deposits of gold or iron ore have heretofore been located in good faith under the placer-mining laws of the United States and assessment work has been annually performed thereon, such locations shall be valid and may be perfected under the provisions of said placer-mining laws, and patents whether heretofore or hereafter issued thereon shall give title to and possession of such deposits.

H. R. 487: Introduced by Mr. Mondell and referred to the Committee on Public Lands, providing for employment and rural homes for those who have served with the military and naval forces. The bill provides for the establishment of a fund in the Treasury Department to be known as the "National Soldiers' Settlement Fund," to be administered by the Secretary of the Interior. The Secretary is authorized to acquire by purchase, gift, deed in trust or otherwise, the necessary lands for soldier settlement projects, and may withdraw, utilize and dispose of by contract and deed public lands suitable for such purposes. The Secretary is authorized to encourage any such undertakings, to perform such work as

in his opinion is necessary for the permanent reclamation or development of the lands, and when he deems essential to place them in condition for use and cultivation, including the building of essential public roads. The bill limits the loan provision to soldiers at \$1,200. The land projects are to be subdivided into farms suitable for the support of a family, and, in the discretion of the Secretary, into smaller farm workers' tracts. Approved applicants shall at the time of entering into contract or purchase make a first payment of 5 per cent of the sale price. The balance shall be paid in amortizing payments extending over a period to be fixed by the Secretary, not to exceed forty years. Sums advanced for improvements shall be repaid in amortizing payments extending over a period not to exceed twenty years. The amortizing payments shall bear interest at the rate of 4 per cent, payable annually, computed from the date of contract. The Secretary is authorized to make loans, not to exceed \$800 at any one time, to soldiers for the purpose of purchasing the necessary live stock and equipment, which loans shall be paid back within five years with interest at 4 per cent. Five hundred million dollars is appropriated to carry out the purpose of the act. This bill has been before the House Committee on Public Lands, but was reported favorably to the House of Representatives on August 1. It is expected that early action will be taken on this bill.

H. J. Res. 167: Introduced by Mr. Raker and referred to the Committee on Public Lands. This resolution provides that Section 2296 of the Revised Statutes shall be made applicable to all entries made under the Homestead Laws. The House Committee on Public Lands reported this resolution to the House on August 1.

France Loses on Surplus Copper

A peculiar situation has been recently pointed out in France. It is stated that the French Government sold to American producers the stocks of copper formerly purchased from them at a loss of about \$200 a ton. This copper may be sold to French consumers by La Societe Franco-Americaine des Metaux, an agent of the American Export Association, at prices which will show a profit over the cost price. Furthermore, this society being an agent of a foreign concern, will not be considered as making a profit in France and will therefore escape taxation. By this situation the French suffer three-fold, first, by a loss on the original sale; second, by a loss to consumers on account of increased price, and, third, by the loss of taxation.—Bureau of Mines Mineral Investigations.

PERSONALS

Van H. Manning, Director of the Bureau of Mines, was at Salt Lake City August 19, 20 and 21, in the course of a tour of inspection of the stations of the bureau. In interviews and an address delivered at Salt Lake City he emphasized the importance of oil shale development to meet the increasing demands for oil and gasoline. Dr. Manning was the guest of the directors of the Utah Chapter, American Mining Congress, at luncheon August 21. Speaking at the luncheon, he reviewed the war activities of the bureau, discussed its general plans for future activities, and invited the cooperation and constructive criticism of the mining industry.

Mr. S. Pemberton Hutchinson, president of the Westmoreland Coal Company, Philadelphia, was a recent visitor at the American Mining Congress offices.

Herbert Wilson Smith, chief of the Tariff Division of the American Mining Congress, has resumed his duties after a short visit to his home in Santa Fe, New Mexico.

Judge A. Scott Thompson, of Miami, Okla., chairman of the American Mining Congress Committee on Taxation, spent a few days in Washington recently in connection with tax matters.

Mr. Paul Armitage has returned to New York after attendance at a meeting of the American Mining Congress Committee on Taxation.

Mr. H. N. Lawrie, chief of the Precious and Rare Metals Division of the American Mining Congress, has returned from New York, where he spent several days collecting gold data.

Mr. H. G. Winston of Chicago spent several days at the Washington office recently.

Mr. S. G. Little has been appointed manager of the Pittsburgh district, mine car department, Hyatt Roller Bearing Company, with his offices in rooms 1272-73 Frick Annex, Pittsburgh, Pa. Mr. Joseph S. Larkin, sales engineer, will assist Mr. Little in the Pittsburgh district.

Mr. J. E. Graham is now located as sales engineer in the Huntington district, mine car department, Hyatt Roller Bearing Company, assisting Mr. Nash, the manager of that district.

Iron Works in the Orient

The principal ironworks in the Orient are reported as follows: Taoshung mines, containing 20,000,000 to 30,000,000 tons of ore, supplies the Oriental Ironworks Co.; Taiyeh mine, containing about 50,000,000 tons, supplies the Government Ironworks at Yawata, Japan, also smelters near the mine to supply the Yawata Ironworks with pig iron. At Anshan-chen ironworks of the South Manchuria Railway Co., furnaces are being set up and further enlargements are proposed. Large deposits of iron ore are reported in this neighborhood.

May Get Iron from France

France has offered to supply basic pig iron to Great Britain at a price far below the British and will undertake to supply 10,000 tons a week for four months. This iron comes from German-owned furnaces in Lorraine, now controlled by the French Government.

There is a great scarcity of pig iron in England and this offer may be accepted. The feeling in England seems to be that the admission of foreign trade in pig iron would only be an entering wedge which might seriously hamper British producers in the future.

Butte Situation Improved

The threatened labor unrest at Butte in the early part of July has been considerably ameliorated by the abolishment of the sliding scale of wages based upon the market value of copper, and the substitution of a higher wage rate. Industrial relations in Butte have been materially bettered by this action.—Bureau of Mines Mineral Investigations.

Metallurgical Exchange Opened

The Societe de Valeurs pour Fers et Acier in Schaffhausen, Switzerland, has established a metallurgical exchange in Zurich for the purpose of assisting the machine industry.

Owing to the constantly increasing demand for Jeffrey products in the Detroit district, we have opened a new branch office in Detroit in the Book building, on Washington street, between State and Grand avenues.

This office will be in charge of Mr. O. B. Wescott, who has had long and successful engineering experience in the sales and engineering-construction department of our company and is well equipped to render valuable assistance to clients in working out the most economical and practical material-handling equipments for their requirements.

Mr. Wescott will give personal attention to inquiries for Jeffrey portable loading, elevating, conveying, crushing, pulverizing, screening or tipple machinery and will welcome the opportunity of serving our customers in Detroit and vicinity.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

THE PRESIDENT'S INDUSTRIAL CONFERENCE

The conference of the various factors of industry—capital, labor and the consumer—which has been called by President Wilson, should result in a vast benefit to the nation. The waste of strikes of the past has been enormous. The bad feeling which has grown out of conflicts between labor and capital has caused perhaps even greater loss. That labor and capital should work together in perfect harmony, each receiving its just reward in proportion to the service rendered, and that the enlarged production should be available for the great body of consumers at prices which will enable a large use and thus call for additional activities of the combinations of labor and capital, would be an ideal condition. This condition would bring the greatest amount of luxuries and comforts as well as of necessities to the public as a whole. Without this coordination some people must suffer want and many people go without luxuries and perhaps struggle for necessities. It is not to be humanly expected that a solution of all these problems can be worked out at the President's conference. It is to be hoped that a long step will be made in that direction.

ANNUAL CONVENTION

As has already been announced, the Twenty-Second Annual Meeting of the American Mining Congress will be held at St. Louis for five days, beginning November 17. Each branch of the mining industry will have opportunity for

the special discussion of its particular problems, and general meetings will be held at which matters of common interest will be discussed.

Many of the most prominent men in the nation will be in attendance, and an exhibit of mining machinery and supplies of mining resources and of the many new applications of science to mining development will be available for study and amusement.

The St. Louis Special Committee of Arrangements consists of Messrs. Thomas F. Brewster, W. L. Schmick and W. K. Kavanaugh, three men whose names give most complete assurance that the city of St. Louis is behind the movement, and that no pains or expense will be spared to make this convention a notable success.

REMOVAL OF OFFICES

We beg to announce to our members and friends the removal of our Washington headquarters from the seventh to the eighth floor of the Munsey Building.

The change is made necessary by the need for increased space. The new headquarters will occupy nearly double the space which has been occupied in the past.

In addition to increased space for the use of our working force, a special room will be provided for the use of our members, which will at all times be available for that purpose.

With the increased facilities thus provided, the Mining Congress will be able to render more complete service to the mining industry, and will not only be

willing, but solicits the opportunity to care for the interests of its members in Washington, no matter what the particular service required may be.

We may fail in meeting some requests, but will at least make a strenuous effort to serve the mining fraternity of the nation in whatever matters require attention in the capital of the nation.

THE NATION'S UNREST

Much is being said concerning the general unrest among the people of this nation and of the world. The war has created new conditions which require readjustment, and whether this adjustment is to be made upon the present high-price levels or upon the levels of the pre-war period is the question which cannot be answered or determined by any theoretical discussion. Whether prices are high or low is not important. It is important that the prices of all things shall be upon equal levels.

The wage-earner who earns four dollars a day and is able to support his family with three dollars, leaving him one dollar of profit, is as well off as the man who earns ten dollars a day, whose living requires the expenditure of nine. In fact, he is better off because the surplus dollar is worth more than is the surplus dollar in the high-price market.

Price levels depend upon two considerations: First, whether the amount of production is a little more or a little less than the demand; second, upon the amount of money available for its purchase. The first relates to the willingness of the world's workers to make full production, and the second depends upon the amount of money available for use.

The circulating medium of any country with international interests must be based upon the amount of its metallic currency. To secure normal conditions, the business requirements for the use of money, the amount of money in circulation and the amount of gold, which is the basis of security for that medium, should bear as nearly as possible a stable relation to each other.

At this time the amount of gold used in jewelry and for manufacturing purposes is rapidly increasing, the production of

gold is rapidly decreasing, and the currency which is based upon the gold reserve is rapidly increasing.

Upon the other hand, the amount of goods being used by the public is greater than ever before, while the industrial forces of the nation and of the world are curtailing production. This is the real reason for world unrest. The only solution of the problem is increased production.

IMPROVING LABOR CONDITIONS

Notwithstanding the labor unrest throughout the country, the fact remains that the conditions of labor have been vastly improved during the past twenty-five years. To an extent organized labor is entitled to credit, but it is undoubtedly true that more of credit belongs to the advance of civilization, the increased use of machinery, and the larger operations made possible by capital. These have so increased production as to bring to the wage-earners luxuries which were then unheard of and which today have come to be regarded as necessities.

That labor should strive to receive its full share of the benefits of production is laudible, even though it may be difficult to ascertain just what that share is. Labor's opposition to the introduction of labor-saving devices is most shortsighted, as the present high-priced era most thoroughly demonstrates. Wheat cannot be eaten until it is raised; manufactured products cannot be used until they are made; the price of the necessities and luxuries of life depend upon the certain operation of the law of supply and demand. Sometimes profiteers and speculators temporarily interfere with the natural operation of this law, but these can never effect permanent interference, except where the production is based upon a limited supply of materials wholly or largely controlled by profiteers, who are able, because of a monopoly, to maintain prices above a proper level. Even these efforts are more or less abortive, because there is no one necessity for which there are not partially satisfactory substitutes. When the price of wheat is too high, corn, oats,

or rice are substituted, and frequently the substitutes gain such favor as to thereafter prevent the cornered substance from finding a profitable market. There are few substances the production of which can be so controlled that the high price will not stimulate increased production by other agencies. The surest promise of plenty is guaranteed by an overstocked market. Shortening of production means an understocked market; whether that under-supply is brought about by a failure to use the best means of production, by a failure of labor to perform full service, or by its refusal to perform any service. The best means of production include efficient labor, complete facilities and the best equipment and, not less important, that supervision which brings each component element of production into that relation where its service is most effective. A high level of prices must prevail when these elements of production are not properly coordinated. The better this coordination, *i.e.*, the more efficient the operation, the larger the production, the larger the supply upon the market, the lower the price, and the greater the amount which will be available and within reach of the wage which labor earns in its part of the enterprise. Just what this part should be will ever be a mooted question and yet one which can at any time be approximately ascertained. Every business concern should, and most of them do, through proper accounting systems, ascertain the exact part of the earnings to be credited to each of the three necessary elements of production.

Labor cannot accomplish full production without the cooperation of capital and management. Labor may secure capital by paying capital's wage, the interest rate which is regulated by law. Capital may purchase labor by mutual agreement not regulated by law, except in certain instances as to the minimum wage which is required. Capital always seeks the highest efficiency. Very unfortunately, labor sometimes seeks the highest inefficiency without realizing that its own interest is jeopardized thereby. Whether the market shortage is created by inefficiency, by a lack of

proper capital, by mismanagement, or by labor strikes, the result is the same to all consumers, namely, a high price. This leads to a diminished use, which in turn curtails the demand for labor and in the end leads to unemployment.

INCREASED PRODUCTION THE GREAT NECESSITY

It is a matter of special interest at this time to know that in Germany it has been concluded that a ten-hour day offers the best solution to the industrial problems which face that nation.

Germany, at the close of the war, found herself impoverished, but not more so than the European Allies with which her contest was waged, except for the indemnities which will be required under the terms of whatever peace treaty shall be finally concluded.

The costs of army maintenance by France and Great Britain per unit of fighting efficiency was very much greater than the same costs to Germany. Upon the same basis, the cost of industrial production will be very much less in Germany.

In order that these developments may be accentuated, and in order that the productive forces of Germany may be so marshalled as to meet the enormous burden of indemnities and to build up her industrial powers in the shortest space of time, Germany has about concluded to put her workmen upon a ten-hour basis and that the Government shall pay a special bounty for the extra hours of service performed by each working man.

Of all the lessons which Germany has taught the world, and there are many, perhaps none would be of greater service to the remaining world forces at this time than the particular lesson involved in this conclusion.

Increased production is essential to make good the shortage of the world's supplies created by the war waste. Nine hours per day of honest labor for a six months' period in the United States would solve most, if not all, of the problems of high prices and the necessity for higher wages in order to meet living expenses.

We are now producing in an eight-hour day and with much "soldiering" the food which this nation requires, and we are sending approximately twenty millions of tons of foodstuffs to Europe. If this surplus food had been placed upon our own markets, price levels would have tumbled. If we were to add 10 per cent to the productive capacity of this country for six months, a surplus would be created which would force prices down to the proper level.

More production is the real solution, and the only solution of that particular problem. This solution does not suit the syndicalists, who, through the unrest of our people, plan the overthrow of the Government. It is a solution which labor leaders would oppose with all their power. But there is no other solution except that we wait until European production can get into our markets and force down the cost of living. The vicious circle of increasing prices will never compass a remedy.

There are two methods by which conditions will be brought to proper levels. One is through the starvation which inevitably follows industrial panic; the other is through an increase of production by which plenty for all may be available.

Which shall it be? Organized labor must give the answer.

THE ROAD TO INDUSTRIAL SLAVERY

Much of the disorder for which union labor is held responsible grows out of the belief that a workman is entitled to his job. The adoption of this belief would be the surest road to industrial slavery. If the workman is entitled to his job, whether his service is desired by the employer or not, then the employer must be entitled to service, whether the workman desires to perform it or not. The right of an employer to demand service, except under contract mutually entered into between himself and the workman, would be industrial slavery. The right to serve for a stipulated wage under agreement and the right to quit that employment at the expiration of the contract, are reciprocal to the right of the employer to hire upon agreed terms and

his right to discharge when the term of service has been completed. To refuse these rights to either party is a denial of rights guaranteed by the Constitution. Organized labor, to accomplish the greatest good for its own membership, must base its action upon sound economic principles. The steel strike would not last twenty-four hours except for the world understood fact, justified by the history of all previous strikes, that any effort to operate with any other than those who gave up their jobs would lead to violent disorder, destruction of property and of life. Organized labor cannot hope to include all working men in its ranks nor command entire public confidence until it not only repudiates all lawlessness but strives by every effort within its power to prevent it. Organized labor will never reach its highest efficiency by asking for itself liberties entirely subversive of the rights of others.

The right to quit work and the right to discharge must be reciprocal.

Any other conclusion must lead to conditions subversive of liberty.

GOOD FAITH AND LABOR CONTRACTS

A well-known labor leader closely associated with national affairs in Washington was recently asked whether he would advocate the leaders of organized labor meeting together with the leaders of organized industry to discuss in a very frank and open manner the industrial problems now facing the nation, to fix upon a platform upon which both labor and employers might stand, and to help to carry out by propaganda or otherwise a campaign whereby an exact understanding and agreement might be reached and permanent contracts entered into by which *all* difficulties now pending by threat or suggestion might be eliminated and American industry move upward to the maximum production level.

His answer was terse and final:

"No. Not by any means."

He was asked: "Why?"

His reply was: "Because no matter

what agreement employers might enter into in a conference of this sort, they would at their own pleasure forget and break when they saw fit to do so."

The answer is an interesting one when considered in connection with the national situation as developed during the past few months. In many parts of the United States agreements as to wage scale and other phases of the labor problem have been entered into between organized labor by its leaders and the employers. Some of these have been in written form, some have been verbal agreements, as the result of conferences. Many of these agreements have been broken by the employes even where increased wages have been allowed. It happened in the mines, it happened in street railway transportation, it has happened in many lines of industry, even where the Government has been directly concerned.

Notorious and recent are the Chicago, St. Louis and Boston traction strikes. Later and more important are the two very serious and costly breaks by the unorganized labor in the union shops all through the nation and in every division of railroad work in southern California. Later and still more important is the determination of the United Mine Workers to abrogate the "Washington Agreement" wage contract on November first notwithstanding the fact that it was made to expire upon the Signing of the Peace Treaty with Germany. This is a very serious matter, not alone for the employers of labor but for the labor organizations themselves. Is a contract with a labor organization worth as much as the now proverbial scrap of paper? Has the rank and file of the labor unions reached the mental condition where it believes that it can change its attitude toward agreements according as the wind listeth? Has the employer and the public no right as against the right of the union?

Is it not time that labor called a counsel in its own ranks as to its own ability to control the extent to which its policies may go in violation of its agreements? Is it not time that instead of charging employers with the disposition

to continually break its agreements with labor, it look within itself for the cause which leads the employers of labor to question the sincerity of the whole fabric of unionization?

THE STEEL STRIKE

According to the testimony given before the Senate Committee on Education and Labor by Messrs. Fitzpatrick, Gompers and other labor leaders, the only reason for calling the steel strike was the unionizing of the steel industry and bringing its operation under the dictation and control of the American Federation of Labor. The right to strike, like the right of self-defense, should only be exercised in cases of extreme necessity. The ordering of a strike, and particularly a strike which involves directly the interest of the nation, should only be exercised as a last resort.

Labor leaders insist that the denial of the right to strike means industrial slavery. There is a vast difference between the right of an individual to quit work and the right of an organization to require him to quit work. A strike is a concerted movement made by order of the executive officers of a union to quit work at a certain time and require all of the members of the organization to act in concert. It will be said that strikes will only be declared after a majority vote has authorized a declaration to be made; in other words, after a large number of individuals have conspired together and instructed their superior officers to put their conclusion into effect.

The real purpose of the steel strike is to enforce recognition of the union. The other reasons advanced by organized labor are but flimsy excuses. Its real reason is to secure the right to tax the laborers in the steel industry in order to add to the income and in a general way to strengthen organized labor. The MINING CONGRESS JOURNAL has frequently expressed its belief in organized labor as a means toward the betterment of labor conditions. It does not believe that organized labor has the right to interfere with those who do not voluntarily join the movement. It protests

with the utmost vigor any plan which undertakes to force men to join the union.

It believes that any plan which undertakes to interfere with the right of any individual to earn a living, whether he belongs to a union or not, is unjust, un-American and in direct violation of the Constitution of the United States. Labor leaders insist upon their constitutional rights of free speech and free assembly. Their alleged denial is one of the reasons advanced to justify the steel strike. Life, liberty and the pursuit of happiness, guaranteed by the Constitution, to them only applies where it benefits those who are members of the union. Those individuals who insist upon preserving their own independence are known to union men as "scabs"; their right to earn a living is denied and their effort in that behalf is frequently prevented by unlawful and often criminal deeds. Organized labor should be, and might be, the most efficient agency for world uplift, but, so long as it justifies lawlessness, or undertakes to interfere with the liberty of any other citizen to enjoy constitutional rights, the good and the bad of the organization will scarcely balance each other in the public mind. Organized labor should give aid in the solution of world problems rather than to take advantage of burdensome conditions to extort from the public further advantages for itself. The high price of necessities of life is at this time bearing with equal burden upon more than 100,000,000 people of this country. These high prices are caused by the shortage of supplies, occasioned by world war waste and intensified by the inefficiency of labor, which now demands shorter hours and greater inefficiency as a means of bettering itself at the expense of the great mass of consumers. There is but one solution to the high cost of living problem—that is to increase production and give the law of supply and demand opportunity to reduce prices to the consumer. The demand of labor for shorter hours and higher wages, and the waste occasioned by strikes called to secure these conditions, necessarily adds to the market value of the short supply of goods now available. To order strikes

during such a period for the sole purpose of enforcing recognition of the union is a crime against the Constitution, a crime against humanity, and a crime which will necessarily react upon those who are responsible for it. The great body of consumers will not always tamely submit to acts, wrong in morals if not in law, which tend to increase burdens already almost unbearable.

AN UNFORTUNATE ILLUSTRATION

The particular effort made by Mr. Samuel Gompers to defend the present attitude of President Wilson upon the labor question as compared with his attitude of ten years ago, when he announced that he was a "fiery advocate of the open shop," is somewhat amusing, and his illustration seems to have been particularly inappropriate. Mr. Gompers stated that it is just as unfair to hold Mr. Wilson to the views expressed years ago as it would be to hold Mr. William Z. Foster to the views which he expressed several years ago.

This colloquy was brought out before the Senate Committee on Education and Labor in its investigation of the steel strike, by questions from Senator Phipps, of Colorado, who read into the record the statements made by Dr. Wilson when president of Princeton University in addresses delivered in 1907 and 1909. Senator Phipps stated that these words were not quoted from Judge Gary, of the steel corporation, but from Dr. Wilson, now President of the United States. In his defense of this change of attitude Mr. Gompers undertook at the same time to explain the supposed change of position of William Z. Foster, who is now the secretary of the American Federation of Labor's Committee for organizing the iron and steel workers, who, in a book entitled "Syndicalism," written several years ago, laid down the following platform:

The thieves at present in control of the industry must be stripped of their booty.

The wage system must be abolished.

This social reorganization must be a revolution. Only after such a revolution will the great inequalities of modern society disappear.

Next to the partial strike, the most effective

weapon used by syndicalists in their daily warfare on capitalism is sabotage. Perhaps the most widely practiced form of sabotage, is the restriction by workers of their output. Disgruntled workers all over the world instinctively and continually practice this form of sabotage, which is often referred to as "soldiering." The English labor unions, by establishment of maximum outputs for their members, are widely and successfully practicing it. It is a fruitful source of their strength.

Another kind of sabotage widely practiced by syndicalists is the practice of either ruining or turning out inferior products. Thus, by causing their employers financial losses, they force them to grant their demands.

At this early date, though many minor details of the organization plan of the new society can only be guessed at, many of its larger outlines are fairly clear. One of these is that there will be no state. The syndicalist sees in the state only an instrument of oppression and a bungling administrator of industry, and proposes to exclude it from the future society. He sees no need for any general supervising governmental body and intends that the workers in each industry shall manage affairs of their particular industry; the miners shall manage the mines; the railroads, and so on through all lines of human activity.

Notwithstanding Mr. Gompers' defense it is quite evident that Mr. Foster has not changed his views, but only that he is using a different agency and one carrying greater promise of early success in accord with a plan for the activities of the I. W. W. as set forth in a letter now in possession of the U. S. District Attorney at Chicago. The letter is signed "Yours for revolution, Williams Z. Foster," and in part reads as follows:

I am satisfied from my observation that the only way for the I. W. W. to have the workers adopt and practice the principles of revolutionary unionism—which I take is its mission—is to give up the attempt to create a new labor movement, turn itself into a propaganda league, get into the organized labor movement, and by building up better fighting machines within the old unions than those possessed by our reactionary enemies, revolutionize these unions, even as our French syndicalist fellow-workers have so successfully done with theirs.

Mr. Foster's effort to disrupt the business of the nation, at a time when greater production is the supreme demand, is in full accord with the thought expressed in his syndicalist platform, the certain result of which is to decrease production.

Fortunately, the steel strike, as such, is lost. This is but a skirmish in the great war which syndicalists have pledged

themselves to carry on against established government everywhere.

"The syndicalist" according to this leader of the steel strike, "sees in the state only an instrument of oppression and a bungling administrator of industry." Any body of men which countenances and endorses such action and selects such men to be its leaders has no right to be called conservative.

Samuel Gompers of the American Federation of Labor is on trial before the American public. The steel strike was not justified at any time and, at the present time is, almost if not quite criminal from the standpoint of the necessities of the nation's toilers, to have production so increased that there will be enough to go around.

Mr. Gompers' illustration was most unfortunate.

SENATE DELAYS ACTION ON EMERGENCY TARIFF BILLS

No change has taken place during the last month in the status of the emergency tariff bills which have been passed by the House. Senator Penrose, the chairman of the Senate Committee on Finance, and a majority of his committee disapprove of what is termed piecemeal legislation.

The Ways and Means Committee took up the graphite bill and heard testimony for and against the bill. The producers were represented at the hearing by A. B. Conklin.

FRANCE MUST EXPORT IRON ORE

France is confronted with the necessity of exporting both iron ore and iron and steel. The acquisition of Lorraine has placed her next to the United States in resources both as to iron ore and iron and steel plants. Since France cannot consume her output capacity, it is necessary to establish an export trade. This is difficult on account of labor shortage and high costs and on account of the activity of the United States in foreign fields.

DOMESTIC CONSUMPTION OF GASOLINE SHOWS INCREASE

The increase of home demands for gasoline is shown by the fact that during the first six months of this year our domestic consumption of gasoline was 42,000,000 gallons (or 1,000,000 barrels) more than for the first half of 1918. It is expected with the ever-increasing use and number of automobiles, farm tractors and trucks, the demand for gasoline will continue to increase.—Bureau of Mines' Minerals Investigation.

ANACONDA CLAIM TURNED DOWN BY ATTORNEY GENERAL

The Attorney General of the United States has disapproved the war mineral relief claim submitted by the Anaconda Copper Mining Company. The full text of the opinion, which has an important bearing on other claims is as follows:

"In your letter of August 12 you request an opinion as to whether a claim for losses suffered in the installment and operation of a ferromanganese plant may be allowed under Section 5 of the act of March 2, 1919, entitled 'An Act to provide relief in cases of contract connected with the prosecution of the war, and for other purposes.' You enclose a copy of an opinion by the Solicitor of the Interior Department on the claim of the Anaconda Copper Mining Company for the sum of \$561,346.62 for losses sustained in producing and preparing to produce ferromanganese.

"The pertinent parts of the act of March 2, 1919 (40 Stat. 1272, 1274, 1275) read:

"SEC. 5. That the Secretary of the Interior be, and he hereby is, authorized to adjust, liquidate, and pay such net losses as have been suffered by any person, firm, or corporation, by reason of producing or preparing to produce, either manganese, chrome, pyrites, or tungsten in compliance with the request or demand of the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping Board, or the Emergency Fleet corporation to supply the urgent needs of the Nation in the prosecution of the war; said *minerals* being enumerated in the Act of Congress approved October fifth, nineteen hundred and eighteen, entitled 'An Act to provide further for the national security and defense by encouraging the production, conserving the supply, and controlling the distribution of those ores, metals, and minerals which have formerly been largely imported, or of which there is or may be an inadequate supply.'

"*And provided further*, That no claim shall be allowed or paid by said Secretary unless it shall appear to the satisfaction of the said Secretary that the expenditures so made or obligations so incurred by the claimant were made in good faith for or upon property which contained either manganese, chrome, pyrites or tungsten in sufficient quantities to be of commercial importance. *And provided further*, That no claims shall be paid unless it shall appear to the satisfaction of said Secretary that moneys were invested or obligations were incurred subsequent to April sixth, nineteen hundred and seventeen, and prior to November twelfth, nineteen hundred and eighteen, in a legitimate attempt to produce either manganese, chrome, pyrites, or tungsten for the needs of the Nation for the prosecution of the war, and that no profits of any kind shall be included in the allowance of any of said claims, and that no investment for merely speculative purposes shall be recognized in any manner by said Secretary.

"*Provided further*, That in determining the net losses of any claimant the Secretary of the Interior shall, among other things, take into consideration and charge to the claimant, the then market value of any ores or minerals on hand belonging to the claimant, and also the salvage or usable value of any machinery or other appliances which may be claimed was purchased to equip said mine for the purpose of complying with the request or demand of the Secretary of the Government above mentioned in the manner aforesaid.

"Section 1 of the Act of October 5, 1918 (40 Stat. 1009), made part of the act of March 2, 1919, and more particularly defining the minerals, ores, intermediate metallurgical products, alloys and chemical compounds thereof for which losses in the production or preparation for production are to be paid, reads:

"HON. SECY. OF THE INTERIOR:

"That by reason of the existence of a state of war, it is

essential to the national security and defense, and to the successful prosecution of the war, and for the support and maintenance of the Army and Navy, to provide for an adequate and increased supply, to facilitate the production, and to provide for an equitable, economical, and better distribution of the following-named mineral substances and ores, minerals, intermediate metallurgical products, metals, alloys, and chemical compounds thereof, to-wit: Antimony, arsenic, ball clay, bismuth, bromine, cerium, chalk, chromium, cobalt, corundum, emery, fluorspar, ferrosilicon, fullers' earth, graphite, grinding pebbles, iridium, kaolin, magnesite, manganese, mercury, mica, molybdenum, osmium, sodium, platinum, palladium, paper clay, phosphorus, potassium, pyrites, radium, sulphur, thorium, tin, titanium, tungsten, uranium, vanadium, and zirconium, as the President may, from time to time, determine to be necessary for the purposes aforesaid, and as to which there is at the time of such determination, a present or prospective inadequacy of supply. The aforesaid substances mentioned in any such determination are hereinafter referred to as necessities."

"The sole question for determination is whether Congress by Section 5 of the Act of March 2, 1919, intended to pay for losses not only incurred in mining manganese but also for losses in manufacturing manganese into an article of commerce known as ferromanganese.

"Manganese is never found in a free state but always in conjunction with some other mineral substance and generally in carbonates and silicates. Ferromanganese is an alloy of iron and manganese containing over 25 per cent manganese and being rich in carbon. It is used in the manufacture of Bessemer steel. Manganese is a product of the mines and ferromanganese is a manufactured article.

"The only uncertainty that could possibly exist as to the meaning of the statute appears to arise out of the word 'produce' which is applicable to both mining and manufacture, and mine owners as well as manufacturers are referred to in the statutes as producers. But there are certain provisions of Section 5 of the act of March 2, 1919, which definitely limit the application of the word to mining operations.

"The claim of the Anaconda Copper Mining Company is evidently based upon the contention that ferromanganese is an intermediate metallurgical product of manganese and is embraced within the provision for payment of losses to producers by reason of the specific mention of intermediate metallurgical products in the act of October 5, 1918, and the adoption of the minerals enumerated in said act in the first paragraph of Section 5 of the act of March 2, 1919. There is, however, no basis for this contention, as the intermediate metallurgical products, metals, alloys and chemical compounds covered by the act are all specifically named in the act of October 5, 1918, and as there is no reference to ferromanganese, the rule of law *expressiounius exclusio alterius* applies.

"The second proviso of the act of March 2, 1919, declares that no claim shall be allowed or paid except upon satisfactory proof that the expenditures were made and the obligations incurred in good faith for or upon property containing the four minerals named in *sufficient quantities to be of commercial importance*; and the third proviso declares that no claim shall be paid unless there is satisfactory proof that the moneys were invested, or the obligations incurred, after the commencement of the war and prior to the armistice in a legitimate attempt to produce the

said minerals for the needs of the nation and the prosecution of the war, and that the investments were not merely for speculative purposes. The fifth proviso declares that in determining the net losses of any claimant, the then market value of any ores or minerals on hand and the usable value of any machinery or other appliances purchased *to equip said mine* for the purpose of complying with the request or demand of the agencies of the Government were to be deducted.

"Prior to the war with Germany, manganese was imported into the United States from Europe, Asia, Africa and South America, and a comparatively small quantity was produced in the United States. In order to procure these necessary minerals for the prosecution of the war and to stimulate the production of the four metals in this country, operators were requested by certain agencies of the Government to develop their mines, and Section 5 of the act of March 2, 1919, was passed making provision to indemnify producers who had opened up mines or who had made expenditures looking to the development of mines of commercial importance. This is abundantly shown by the explanations and statements concerning the various provisions of the bill (H. R. 13274, which afterwards became the act of March 2, 1919,) on the floor of the House and the conference reports submitted on the bill. There was considerable hostility to Section 5 of the bill, which, in the earlier stages of the proceedings before amendment by the Conference Committee, was known as Section 7, and there was an evident purpose on the part of the managers to indemnify persons who had incurred losses in mining operations as distinguished from manufacturing operations with said minerals.

"Mr. Kahn, one of the members of the Conference Committee on the part of the House, explaining the scope and purpose of the bill, made the following statement on the floor of the House, which is given on the authority of *Binds v. United States* (194 U. S. 495, 496):

"Mr. Kahn: As I said, there are only three minerals involved. They are pyrites, chrome and manganese. They are found in a few sections of the country. We have not been able in recent years to mine these minerals profitably. The people abroad have produced them so much cheaper than they could be produced in this country that the market for these minerals in this country was practically destroyed. But the feeling that actuated the American people was that we must win the war at any cost. To win it we had to have these minerals. We could not get them from the foreign countries that have been hitherto sending them to our shores. Therefore we had to get the men in this country who have the property on which these mines are located to produce for us the ore that we required. They went to work in good faith for the Government, and they are entitled to relief. I hope that the House will send this bill to further conference, and instruct the conferees to include the principle of these provisions of Section 7 in their final report. (65th Cong. Rec., 1st Sess., p. 2879.)

"Further statements were made by Mr. Kahn (*Idem.*, p. 3504), explaining that the bill was intended to reimburse property owners in this country, who at the solicitation of the Government undertook to develop properties containing the minerals specified in the bill in sufficient quantities to be of commercial importance, for losses sustained in developing mines.

"The portions of the act which have been referred to as limiting payment to losses incurred in the development of mining, were proposed as amendments by the Senate and the discussion of these amendments on the floor of the House shows that they are intended to limit reimbursement to persons who had made *bona fide* investments in the development of properties containing the said ores, and to prevent the extension of the provisions of the bill to losses sustained by manufacturers in working these ores into commercial products (*Idem.*, pp. 4468-4474).

"In the statement of the manager on the part of the House attached to the Conference report on the bill, (H. R. 13274) submitted February 11, 1919, is the following:

"Section 5 provides for the settlement of mining contracts by the Secretary of the Interior. (*Idem.*, p. 3317.)

"Attached to the Conference report on the bill submitted February 26, 1919, is the following statement:

"The Conference adopted the report upon this bill made February 11, with the exception of Section 5 which provided for the settlement of mining contracts by the Secretary of the Interior. As to Section 5 of the conferees merely followed the latest instructions of the House authorizing the settlement and liquidation of losses suffered in the production of manganese, chrome, pyrites and tungsten. The conferees respectfully refer to the report and statement filed February 11, 1919, upon this bill. (*Idem.*, pp. 4563.)

"This report was agreed to (*Idem.*, p. 4672).

"The motion to instruct the Managers of the Conference Committee on the part of the House to agree to the Senate amendments which limited reimbursements to losses incurred in developing mines after deducting the value of ores, minerals and machinery for working the mines on hand at the time the armistice was signed, and that only net losses in mining operations without profits should be paid, was offered by Mr. Foster (*Idem.*, p. 4468). This motion was debated at considerable length and substitute motion was offered by Mr. Stafford to instruct the Managers on the part of the House to concur in the Senate amendments except as to Section 7 (afterwards Section 5). The substitute was rejected (*Idem.*, p. 4473) and the motion of Mr. Foster was adopted and the names of the conferees announced (*Idem.*, p. 4474). These were the instructions referred to in the statement attached to the Conference report which was adopted, and which contained the act of March 2, 1919, as finally approved.

"A comparison of the Conference report of February 11, 1919 (*Idem.*, pp. 3316-3317), in February 26, 1919 (*Idem.*, pp. 4563-4565) will show all of the Senate amendments to Section 5 of the Act of March 2, 1919, limiting reimbursement to persons developing or preparing to develop mines of manganese, chrome, pyrites and tungsten in good faith at the request or demand of the five agencies of the Government named in the act.

"My examination of this subject has led me to conclude that producers of ferromanganese do not come within the purview of the act of March 2, 1919, and are, therefore, not entitled to reimbursement for losses incurred in its manufacture."

EUROPE IN DIREST NEED OF 81,000,000 TONS OF U. S. COAL FOR THIS WINTER

With the approach of winter the greatest menace to life in Europe draws on apace. The greatest stress and danger lie in the lack of coal. America has a boundless quantity, but, incredible as it may seem, America cannot supply the needs of Europe. Nor can Great Britain, whose annual production of 287,412,000 tons has shrunk to 214,000,000, Germany's decline being even greater. And while Great Britain's pre-war export of coal ran to 76,689,000 tons, her estimated post-war exports are only 23,000,000 or less.

To avert a world shortage America must export upwards of 81,000,000 tons. The nation's pre-war export of coal was less than 20,000,000 tons. The excess over pre-war exports which must be supplied by this country, if the world shortage is to be made up, is 62,463,000 tons.

This shortage cannot be met. To make up the deficiency America would have to export within the next few months more than four times as much as it ever exported during an entire year. There is not enough tonnage available. With the trebling food exports, even an extra million tons a month would tax shipping beyond its utmost limit. And even that extra million would be of no avail in relieving the distress that threatens Europe.

No phase of world conditions has more closely occupied the United States Shipping Board than this matter of coal for Europe. Keenly alive to it, Mr. J. H. Rosseter, Director of the Division of Operations, had Mr. H. Y. Saint, head of the Export Coal Department of his division, compile the report which is presented here. It portrays the abnormal demand that is being made upon the United States to take care of Europe from a coal standpoint, shows that the demand that is being made upon the Shipping Board for tonnage to be placed in the coal trade is many times greater than can be supplied, and, what is more significant, shows that European nations are doing little or nothing to relieve the situation by using their own tonnage; moreover, that the nations which are doing the least are the ones that are able to do the most.

The outstanding fact, brought out by this analysis, is that European nations are using their own tonnage in trades best suited to their maritime interests and in competition with Shipping Board vessels, leaving Uncle Sam to carry the less profitable coal cargoes for the relief of suffering peoples.

"It would seem," said Mr. Saint in the report to his chief, "cognizance must be taken by the Shipping Board of this situation and something should be done to bring European tonnage into this work of distributing coal to European ports."

"The statistics compiled by this department show that Italy is practically the only European government which is extensively using its own vessels in carrying coal from the United States for Italian relief. In the month of July twenty Italian vessels sailed from American ports with

coal. You will notice that Norwegian, British and Greek ships were plying in the Italian trade, which today is considered a profitable one. At the same time the Shipping Board was having demands made upon it to carry coal to Greece, Switzerland and the Scandinavian countries, as well as to South America.

"Very heavy demands are being made upon the Shipping Board to carry coal to Denmark. Our tabulation shows that no Danish vessels are carrying coal to Denmark, but a number of Danish ships are carrying coal from American ports to South America, which is a profitable trade when the return cargo situation is taken into account.

"It will be noted that Norwegian and Italian vessels are under charter to carry coal to Gibraltar, when the needs in their own countries are great.

"Large demands have been made upon American tonnage to carry coal to the Netherlands, and during July, seventeen American vessels sailed from American ports to that country. During the same period only three Dutch ships carried coal to their home ports while two Swedish and one Norwegian ship were in the Dutch coal trade.

"Insistent requests have been made on the Shipping Board to carry coal to Sweden, and as many as eleven steamships have sailed in one month for that country. Yet Swedish steamships in that trade have not exceeded one a month.

"With the increasing demand upon America to supply coal for Europe and to carry it in American bottoms, and with all the demands predicted upon the increasing distress in various European countries, it would seem that immediate steps must be taken to bring about an effort on the part of the various countries to help themselves in this matter of coal distribution.

"In view of the fact that the Shipping Board cannot meet the demands that are being made upon it, in view also of the fact that our vessels are now being used to relieve distress in Europe where the distress is greatest and relief most urgent, it seems imperative that the European nations which are facing a coal famine should do something to relieve the situation by placing some of their own tonnage in the American coal trade, even though that trade is less profitable than the ones on which these vessels have been placed to compete with the new fleet of the U. S. Shipping Board."

From the analysis made by Mr. Saint it appears certain that the people of France, Belgium, Holland, Italy, Denmark, Norway Sweden, Spain and Switzerland will be among the ones that must suffer most and that the shortage will fall with no less weight upon Germany, Austria-Hungary, including Czechoslovakia and Jugo-Slovakia. The total coal requirements of the world next winter have

been placed by this authority at 179,511,000 tons, of which 97,723,000 tons can be supplied by countries other than the United States.

This would leave 81,788,000 tons to be furnished by this country, Mr. Saint estimates that there will be furnished 19,325,000 tons, leaving a shortage in the world's coal bin of 62,463,000 tons, a tonnage sufficient to supply the New England States for nearly three years.

Translated into other terms, it would require 1,249,000 cars of 50 tons capacity each, to meet the shortage, or 25,000 trains of fifty cars each. Twelve thousand five hundred vessels of 5,000 tons capacity each would be necessary to carry the cargo across the ocean in one trip. More than 60,000 men would have to dig coal at top speed for a year to produce the tonnage.

During the ten-day period from August 29 to September 9, inclusive, the total allocations of vessels to the coal trade numbered thirty-five.

Most of the coal to be carried in these bottoms goes to European destination, with a large portion going to Italy. One coal-laden ship is destined for Buenos Ayres, one to Chile, one to Rio de Janeiro and three are to carry coal to the Pacific Coast for the American Navy. Of the thirty-five vessels, eighteen have been assigned to sail from Hampton Roads, seven from Philadelphia and ten from Baltimore.

Magnesite Tariff Bill Passes House After Lively Debate

After particularly acrimonious debate the magnesite bill was passed by the House on October 7. The vote was 154 to 112, mainly along party lines.

Smaller Camps Active in Utah

In the smaller camps in Utah conditions are normal, with two exceptions. First, the high price of silver is causing renewed activity in prospects and mines where silver predominates, especially in the Milford District, where several small strikes have been made. Second, in the Big Cottonwood District, Salt Lake County, the Cardiff Mine has discharged its entire crew, due to a demand for higher wages.—Bureau of Mines' Minerals Investigations.

Properties of Austrian Magnesite

The amount of fuel required to sinter Austrian magnesite varies and is dependent in part on the quantity of the ferrous carbonate present. With good, flaming brown coal, having a heating value of 6,000 calories, the quantity required varies from 600 to 800 pounds per ton of sintered magnesite. The fuel requirement has been estimated by others at 1,000 pounds per ton of sintered magnesite produced. The latter coal, however, has a calorific value of only 4,000.

The abundance and accessibility of the brown coal used in sintering Austrian magnesite has been a very important factor in the cheapness of past production.—Bureau of Mines' Minerals Investigations.

COAL PRODUCTION PASSES

11,000,000 MARK SEPTEMBER 20

The high level of production set by the bituminous mines during the first half of the month was maintained and even exceeded in the week ended September 20. The week's output (including lignite and coal made into coke) is estimated at 11,258,000 net tons, an increase over the preceding week of 196,000 tons, or 1.8 per cent. The average production per working day was 1,876,000 tons, more than 71,000 tons higher than during the corresponding period of 1917, though still far short of the record output of a year ago, says the U. S. Geological Survey.

It is interesting to note that the present high level of production, when the rate per day has set a new mark for the year three times in succession, occurs in a season which was distinguished for consistently large output in 1917 and 1918. The past two years have witnessed in the early autumn a period of favorable operating conditions which have made possible the extraction of large tonnages of coal.

For the first time in the present coal year, the week's production of anthracite has equalled that of the corresponding period in 1918. The output for the week ended September 20 is estimated at 1,848,000 net tons, almost exactly the figure reported a year ago. The total output since the beginning of the coal year is naturally far short of that of last year, when an abnormal demand for anthracite was created by the shortage of bituminous.

More consumers seeking to purchase and more miners ready to work rendered more conspicuous the shortage of cars during the week ended September 13. This was in spite of the fact that the railroads provided cars to load the largest tonnage that had been produced in any week this year.

The explanation behind this apparent contradiction is that car shortage is a relative condition. Last April there was no shortage of cars. Today one exists, although the number of cars in commission is greater now than then. Every time another factor curtailing production is eliminated the call for cars becomes stronger. Eliminate the other factors sufficiently and the call for cars will become so strong that a shortage develops. That is just what has been happening since last April. Little by little the other factors have been reduced or eliminated, and a potential demand for cars has been created greater than the railroads can supply.

In the first place the factor of no market has almost completely ceased to operate. Of those mines which can work at all under present market conditions, only a few of the high-cost, poor-quality properties now report losses on account of no market. Considering the country as a whole, the tonnage lost for lack of demand has now sunk to less than 1 per cent of the full-time capacity. Moreover, the reduction went on during the week of September 13. Instead of 2.1 per cent being reported lost on account of no demand, as happened the week before, the losses were only 0.6 per cent. That means that

1.5 per cent of the country's capacity which had not before needed cars became an active bidder for cars, and in consequence the shortage of cars seemed more apparent.

In the same way the labor factor was reduced in influence. Except for scattering strikes in the New River and Winding Gulf fields, and an increase in losses due to labor shortage reported from Westmoreland, the labor situation improved. In the Southwest especially the influence of extra holidays in curtailing output became less significant. By partial elimination of this factor losses attributed to labor went down from 4.5 per cent to 3.9 per cent, thus setting free 0.6 per cent of the capacity of the country and to the same extent intensifying the demand for cars.

The fact that over the country as a whole complaints of car shortage became more numerous during the week of September 13 is thus largely due to the partial elimination of other factors limiting production. In some districts, particularly Hazard, Northeastern Kentucky, Southern West Virginia High Volatile, the car supply was actually worse. In others it seemed to be worse because a considerable potential tonnage which had hitherto been kept from requisitioning cars now came forward and actively demanded them. Only Somerset, Pocahontas, and the Southern Appalachian fields reported improvement.

With no market and labor troubles reduced to a minimum, transportation disability is the factor which must be overcome if the production of coal is to be still further increased.

Beehive coke shared in the increase reported by bituminous coal and anthracite, the week's production reaching, if not the highest mark this year, at least the highest since the middle of February. The output for the week ended September 20 is estimated at 448,069 net tons, an increase of a half of 1 per cent over that of the week before.

The week of September 20 closed on the Saturday before the beginning of the steel strike. Up to the moment of the strike the production of beehive coke had thus recorded an almost unbroken increase since the depression of last May, an excellent indicator of the revival of business.

A slight increase was reported during the week ended September 14, in the tonnage of bituminous coal dumped at lower Lake Erie ports. Dumpings for the week were 553,379 net tons, or 4.9 per cent less than during the preceding week. Total dumpings since the opening of the season are now 2,000,000 tons, or 10.3 per cent below the performance of last year.

Total bituminous shipments to Atlantic tidewater during August were 3,459,000 tons, or 7 per cent less than during August, last year. The cumulative shipments since January 1 were approximately 4,200,000 tons below those of 1918.

The movement of bituminous coal to New England via tidewater, during the month of August, amounted to 748,934 tons, less than half that of August, 1918.

Total shipments during the first eight months of the calendar year were 4,922,000 tons, as compared with 9,095,000, last year.

ZINC PRODUCTION FOR FIRST HALF OF YEAR GIVEN OUT

Figures compiled by C. E. Siebenthal, of the United States Geological Survey, Department of the Interior, from reports submitted by all zinc smelters which operated during the first six months of 1919 show that the production of zinc from domestic ore in that period was 247,584 short tons, and from foreign ore 7,918 tons, a total production of 255,502 tons, as compared with 260,664 tons in the last half of 1918 and 257,263 tons in the first half.

The stock of zinc held at smelters January 1, 1919, was 41,241 tons, and on June 30 it was 59,651 tons, an increase of 18,410 tons. The stock on June 30, 1918, was 44,502 tons. The stock of zinc held by the War Department on May 29, 1919, was reported as 39,000 tons, 9,000 tons of which were held at producers' plants and the remainder at plants which had been engaged in making munitions. In July the government stocks were reported as 21,000 tons of grade A and 5,000 tons of all other grades. The latest invoice by the War Department, as of August 30, shows 10,821 tons of slab zinc and 66 tons of sheet zinc. The decrease in government stocks was due in part to the purchase of government holdings of their own brands of high-grade spelter by the larger producers.

From the foregoing figures and the records of the Bureau of Foreign and Domestic Commerce it is calculated that the apparent consumption for the period was 159,501 tons, as compared with 212,660 tons in the last half of 1918 and 211,870 tons in the first half.

In addition to the zinc produced from ore, 7,328 tons were redistilled from zinc ashes, skimmings, and drosses. Much of this zinc was of grades above prime western, and the total, added to the primary output, gives 262,830 tons consisting of 30,154 tons of grade A, 25,802 tons of grade B, 43,481 tons of grade C, and 163,393 tons of grade D. The output in the last half of 1918 was 63,134 tons of grade A, 29,865 tons of grade B, 56,099 tons of grade C, and 117,899 tons of grade D, showing a decreased production of the higher grades and an increased production of grade D, or prime western metal, for the current period. The decrease in the higher grades was due to the decrease in demand, as a result of the close of the war. Electrolytic zinc amounted to 23,211 tons, as compared with 19,464 tons in the last half of 1918.

Many zinc smelters have been dismantled in the last year and a half, and others are practically abandoned. The total number of retorts at plants at which there were some operations during the first half of 1919 is 158,988 as compared with a maximum total of 224,778 on June 30, 1917. The number of retorts in operation on June 30, 1919, was 82,000 as compared with 123,500 at the end of 1918 and 204,500 at the end of 1916.

RÉSUMÉ OF CUMMINS RAILROAD BILL

S. 2906 introduced by Mr. Cummins and referred to the Committee on Interstate Commerce. The bill repeals the act providing for the operation of transportation systems while under Federal control and for the just compensation of their owners and for other purposes. The repeal will take place immediately upon the passage of the bill.

Section 2 of the bill provides that the indebtedness of any carrier corporation to the United States existing at the time Federal control is relinquished incurred by additions or betterments made during Federal control, and properly chargeable to capital account, shall, at the request of the carrier be extended for a period of five years, with interest at the rate of 5 per cent per annum, payable semiannually, on the first days of January and July of each year and shall be evidenced if possible, by the first mortgage bonds of the carrier, but if this is legally impossible, then in such form as shall be prescribed by the Secretary of the Treasury.

Section 4 of the bill provides that for the purpose of ascertaining the adequacy of rates, fares and charges in producing revenues, the Interstate Commerce Commission shall divide the country into rate districts and the carriers into rate groups, each group of carriers to comprise the railways in one of said districts. The commission shall have the power to hear and determine the issue of the adequacy of the rates for revenue purposes for any one district and the carriers therein as a whole.

In changing or modifying rates of transportation from time to time the commission shall take into consideration the interest of the public, the shippers, the wages of labor, the cost of maintenance and operation, a fair return upon the value of the property, the requirements for additional capital in order to enable the carriers to adequately perform their duties to the public and the conditions under which the same can be secured. For this purpose the commission shall from time to time determine the value of the property in each district and so lower or advance the rates of transportation, as nearly as may be, to provide for a fair return.

Section 7 creates a Railway Transportation Board, which shall be composed of five members to be appointed by the President, by and with the advice and consent of the Senate. The members first appointed shall continue in office as follows: Two for one year, two for two years, and one for three years, respectively. The term of office of each member of this board shall be designated by the President, but their successors shall be appointed for the term of ten years. Any member chosen to fill a vacancy shall be appointed for the unexpired term of the member whom he succeeds. The chairman of the Railway Transportation Board is to be selected by the members of the Board, and shall continue to serve as chairman during his term of office. Each member of the board shall receive a salary of \$12,000 per year.

In addition to the chairman, the board shall elect a secretary, who shall serve during the

pleasure of the board and shall receive compensation to be fixed by the board. The board shall be provided with suitable offices in the city of Washington or elsewhere as may be necessary, and provision is made for the necessary clerical assistance. It is stipulated in the bill that not more than three of the members of the board shall be appointed from the same political party.

Immediately upon organization, the board shall prepare and adopt a plan for the consolidation of the railway properties of the United States, into not less than twenty nor more than thirty-five systems. The board shall make inquiry respecting the transportation needs and facilities of the whole country, and of each transportation situation as it may arise, the adequacy and efficiency of transportation facilities and service, and when and how they should be enlarged or improved. The board shall inquire into the state of the credit of all common carriers. At the expiration of a period of seven years after the passage of the Act, the commission shall proceed to the completion of the plan of consolidation. If in any such proposed system complete consolidation has not occurred, it shall be the duty of the board to secure the incorporation of a railway company under the provisions of the Act whose capitalization in bonds and capital stock shall not be greater than the value of the properties ascertained by the commission under the provisions of the Act of March 1, 1913, with such additions thereto as may be necessary on account of enlargements of the properties to be consolidated.

When the reorganization and consolidation is complete and the existing corporations to be incorporated are in possession and operation of their respective railway systems, the board shall consist of three members only, it being reduced to that number by omitting to appoint successors to the two members whose terms of office first expire after such completion of the plan of reorganization and consolidation.

The Board of Directors of any reincorporated company shall consist of not less than eleven nor more than fifteen persons. There shall at all times be at least two directors selected from the classified employees of the corporation from a list of four classified employees. There shall also be at all times two directors to be appointed by the Railway Transportation Board. Upon all committees of the board of directors upon which power to act in any matter relating to the affairs of the corporation is conferred, there shall be at least one director so selected from the classified employees and one director appointed by the Railway Transportation Board.

The compensation for service upon such board of directors by the persons selected by the employees and the persons appointed by the Railway Transportation Board shall be fixed by the Interstate Commerce Commission and shall be paid by the corporation. The corporation is also to pay the expenses of all members of the board of directors incident to attendance at the meetings of the board of directors or all committees of the board.

The reincorporation of existing railway companies shall be carried into effect regardless of

the laws of any State or Territory that now or hereafter may be inconsistent therewith. Every carrier corporation subject to the Act to Regulate Commerce shall have upon its board of directors at least two directors selected from the classified employees of the corporation and two persons appointed by the Railway Transportation Board.

Section 21 of the Act provides that five or more persons being citizens of the United States, with the recommendation of the board, may incorporate themselves under the Act. The incorporation shall be for a specific and definite purpose, namely, the ownership, maintenance and operation of one of the railway systems into which the railways of the United States are to be divided by the board. The capital stock of such a corporation is to be fixed by the Interstate Commerce Commission, having due regard to the value of the railway property contained in the system which the corporation is organized to own, and with the power to increase the same as additions, betterments, and extensions are added to the system through expenditures properly chargeable to capital account.

The shares of capital stock shall be of the par value of \$100. Certificates therefor shall be issued from time to time at par, fully paid, and only for money or property of equivalent value actually received by the corporation. The corporation shall continue during a period of one hundred years.

The affairs of the corporation shall be managed by a board of not less than eleven nor more than fifteen directors. At least two of the directors shall be selected from the classified employees of the corporation from a list of four. The commission shall prescribe the manner in which the employees shall present and certify the names of those persons who may be nominated by the employees to fill the offices. Two of the directors shall be appointed by the Railway Transportation Board. There shall be at least one director selected from the classified employees and one director appointed by the board, upon all committees of the board of directors upon which power to act in any matter relating to the affairs of the corporation is conferred.

The property of the railway corporations organized or reincorporated under the Act shall not be held to be instrumentalities or agencies of the Government of the United States in the sense that they shall be exempt from taxation by the several states or other lawfully constituted taxing authorities, and all discrimination in the taxation of such property by the states or other lawfully constituted authorities is prohibited.

The share of excess earnings assignable for the benefit of employees shall be put into a fund designated as the employees' welfare fund under the control and administration of the board. The fund may be invested or expended for the following purposes, or any of them:

(a) The promotion of invention and research to ameliorate the conditions of labor and to lessen the hazards of employment.

(b) To extend and improve hospital relief.

(c) To supplement existing systems of insurance and pensions.

(d) To afford opportunities for the technical education of employees.

(e) To establish a system of profit sharing by employees.

In the administration of said fund it shall be the duty of the Board to organize an employees' advisory council to be composed of one representative from each organized craft of railroad employees requesting representation, and no new line of expenditure from such fund shall be undertaken by the board without first receiving the advice of the Council. If the advice is not followed in any respect, the reasons therefor shall be stated in writing and published. Access to the records shall be afforded to the advisory council for the purpose of audit, and full information regarding the expenditures shall be published.

Section 26 of the Act provides for the creation of a Committee of Wage and Working Conditions, composed of eight members, four of whom shall represent labor and four of whom shall represent railroad corporations. The purpose of this committee shall be to settle disputes not adjusted under existing provisions of law or otherwise adjusted between railroads and their employees. The members of this committee shall be appointed for terms of four years, provided that the terms of the first four appointees in each group shall be one, two, three, and four years respectively. Each organized railroad craft may nominate candidates for the memberships representing labor, and the board shall appoint four persons from among such nominees. Each railroad corporation may nominate one candidate for the memberships representing the carriers, and the board shall appoint four persons from among such nominees. If less than four nominations in either group are made, the Board may appoint additional persons believed to represent labor or the carriers. The members of the Committee of Wages and Working Conditions shall receive a salary of \$4,000 per annum. They may appoint a secretary and other necessary employees. The board shall provide a suitable meeting place for the Committee, and shall pay out of its appropriation the salaries of the members and the secretary and other employees employed by such Committee. The board shall also pay all other expenses necessarily incurred in the performance of the duties of the committee.

It shall be duty of the Committee of Wages and Working Conditions to consider all complaints submitted by representatives of employees or of the carriers and to make decisions by majority vote as promptly as practicable. The decisions of the committee shall be certified to the board and shall take effect when approved by the board. If the Committee of Wages and Working Conditions is evenly divided upon any question, the matter in dispute together with all records of proceedings pertaining thereto, shall be referred to the Railway Transportation Board whose decision shall be final. The board shall certify to the commission all decisions of the Committee of Wages and Working Conditions.

when approved by the board, and all decisions by the board in cases referred to it promptly upon deciding the same and said certificate shall be conclusive evidence before the commission of the matters so determined and certified.

The wages and salaries paid by carriers, subject to this Act, and the hours of labor, and other conditions of employment shall be fair, just, and reasonable. In determining the fairness, justice and reasonableness of wages and salaries, the committee and the board shall take into consideration the following:

(a) The scale of wages paid for similar kinds of work in other industries.

(b) The relation between wages and the cost of living.

(c) The hazards of the employment.

(d) The training and skill required.

(e) The degree of responsibility.

(f) The character and regularity of the employment.

If two or more persons enter into any combination or agreement with the intent substantially to hinder, restrain or prevent the movement of commodities or persons in Interstate Commerce; or enter into any combination or agreement which substantially hinders, restrains or prevents the movement of commodities, such persons so combining and agreeing shall be deemed guilty of a conspiracy and shall be punished by a fine not exceeding \$500 or by imprisonment not exceeding six months, or both.

The Act provides that from and after the 31st day of December, 1919, the compensation of each of the members of the commission shall be \$12,000 per annum, payable monthly in twelve equal installments.

It shall be the duty of every carrier serving coal mines located upon its line or lines to make just, reasonable and nondiscriminatory distribu-

tion of all cars available for the transportation of coal among such mines on days when the carrier's supply of cars for such service does not equal the requirements of such mines for the transportation of their coal. Every carrier shall make and establish rules and regulations covering the rating of mines and the distribution of cars based upon such ratings. It shall be unlawful for any carrier, by any rule, regulation or practice, either directly or indirectly, to fail or refuse to count against the distributive share of any shipper of coal on any day or days on which there is a car shortage on its line, or any car or cars furnished to or used by such shippers; Provided, That such cars are suitable for or can be or are actually used for the transportation of coal. The rules and regulations of every such carrier shall provide, among other things, that each and every car furnished or used for the transportation of coal on the day or days on which there is a car shortage on its line shall be counted against the distributive share of the shipper receiving such car or cars on the day or days so furnished or used, regardless of who the consignor or consignors, or consignee or consignees of the shipment therein contained may be, or of the purpose for which such commodity may be used or intended, or of the ownership of the car or cars so furnished.

In case of failure or refusal on the part of any carrier to so count any car or cars against the distributive share of the shipper, such carrier, receiver, or trustee, shall be liable to a penalty of not less than \$100 nor more than \$500 for each offense.

The bill provides many amendments to the Act to Regulate Commerce which are too lengthy to go into in the space provided here. Any of our members who are interested in seeing a copy of the bill may receive one upon request.

TWO SOLUTIONS OF THE RAILROAD PROBLEM

(From the New York Tribune)

PLUMB PLAN

Public—To be obtained by issuing Government bonds to pay for legitimate private interests in the industry; courts to define "legitimate interests"; to be bought through a purchasing board comprising members of the Interstate Commerce Commission and one representative each of operators, employees, and Presidential appointees from Board of Directors.

Public—Under direction of board of fifteen directors; five named by the President, five by the operating officials, and five by the classified employees.

Interstate Commerce Commission (last resort); to be automatically reduced to equalize any surplus revenue.

CUMMINS PLAN

Ownership

Private—Roads to be returned to original owners; organization or reorganization to consolidate all lines into not less than twenty or more than thirty-five systems; consolidation made lawful with approval of Interstate Commerce Commission; capitalization not to exceed value of property.

Operation

Government—Under direction of a Railway Transportation Board of five, appointed by the President with the advice and consent of the Senate.

Rates Fixed By

Interstate Commerce Commission; division of the country into rate districts, with special consideration for each.

Wages Fixed By

Board of Directors.

Commission on Wages and Working Conditions with final appeal to Railway Transportation Board.

Disputes Settled By

Special boards, comprising five representatives each of operating officials and men. Final appeal to Board of Directors.

Commission on Wages and Working Conditions; subject to action by Railway Transportation Board and the Interstate Commerce Commission. Strikes prohibited under penalty.

Financing

Revenue used to pay—

- (1) Operating expenses.
- (2) Fixed charges, including interest.
- (3) Surplus to be divided equally between
 - (A) Government to be used.
 - (a) For improvements and extensions.
 - (b) To retire bond issues.
 - (c) When exceeding 5 per cent of gross revenue to be absorbed by corresponding reduction of rates.
 - (B) Men ("dividend on efficiency")
 - (a) Two-thirds to managerial force.
 - (b) One-third to classified employees.

Financial return to owners limited to "fair" dividends on properties instead of government guaranty of income; revenue excess over "fair" return goes to Railway Transportation Board, one-half whereof goes

- (1) To promote amelioration of labor conditions.
 - (2) To extend and improve hospital relief.
 - (3) To supplement existing systems of insurance and pensions.
 - (4) To give technical education to employees.
 - (5) To establish a system of profit-sharing by employees.
- Remaining half to go for equipment.

NEW SECRETARY CHOSEN FOR
U. S. TARIFF COMMISSION

The vacancy in the Secretaryship of the United States Tariff Commission, caused by the appointment of William M. Steuart as Assistant Director of the Census, will be filled by John F. Bethune.

Mr. Bethune was educated in the Washington public schools and George Washington University. On his graduation he volunteered for service in the Spanish War and made the Santiago de Cuba campaign with the First Regiment of the District Volunteers. After being mustered out he practiced law in this city with Messrs. Blair Lee and George H. Lamar. For a time he served as an assistant in the office of the Official Reporters of the Debates of the United States Senate, and afterwards with the Secretary of the Senate until 1907, when he accepted employment with the Senate Judiciary Committee. In 1908 he was special assistant to the Joint Congressional Committee on the Revision of the Postal Laws. In 1911 he was appointed clerk in the office of Public Buildings and Grounds. He has served as chief clerk of the following organizations since they were first established: The Lincoln Memorial Commission, the Commission on Memorial to Women of the Civil War, the Arlington Memorial Amphitheater Commission, and the Arlington Memorial Bridge Commission. For two years also he has been chief accountant for the Government in the construction of the great buildings in Henry Park for the War and Navy Departments. He has also had direct supervision of all recreational facilities in the public grounds and has developed a system for their operation which has given satisfaction to many thousands of persons.

For some years past Mr. Bethune has made his home in Falls Church, Va., where he is captain of the Colonial Rifles and active in all community affairs, having served for several terms as secretary and president of the Citizens' Association, as well as being a member of the town council.

The Tariff Commission state that their selection of a man for the vacancy in the secretaryship was based entirely upon the comparative merits of the many candidates for the position.

TEXAS PRODUCTION BOOSTS
TOTAL OIL OUTPUT FOR YEAR

The recent figures of the United States Geological Survey indicate a greater production of crude oil for June, 1919, than for any month during the last year and a half, credit for which is given to central and north Texas. It is interesting to note that the production for the first six months of 1919, as compared to the first six months of 1918, indicates a greater production for the year 1919 than for 1918. The production for the first six months of 1918 was 172,000,000 barrels, while for the first six months of 1919 it was 177,000,000 barrels, or an increase of 5,000,000 barrels.—Bureau of Mines' Minerals Investigations.

Kerosene Exports Increase

The refinery statistics disclose that 223,000,000 more gallons of kerosene were exported during the first six months of 1919 than in a similar period of 1918. This is probably accounted for by the release of tankers from war duty.—Bureau of Mines' Minerals Investigations.

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GEO. S. RICE DISCUSSES PHASES OF EUROPEAN MINING SITUATION

Those who either do not visit the mines, or are not mining men, do not understand that undercutting machinery is not so generally applicable under European conditions as it is in the United States, according to Geo. S. Rice. The coal beds there are generally pitching, are faulted and are so deep that—

(a) In a large proportion of the working places these are too irregular and the pitch so great as to make it difficult if not impossible to use undercutting machines effectively or at all.

(b) There is no more labor in picking from the face than there is in breaking the large lumps of the comparatively hard coal in the majority of the mines in the United States, in fact in many cases, machines would be "buried" by the spalling off of coal under the roof pressure.

(c) Generally, the European coal mines use the very commendable system of longwall mining,

which recovers practically all of the coal and fills the excavation with packing, instead of the practice which prevails in the United States of using the room and pillar system, in many places without attempted recovery of pillars. It is estimated that on the average, at least 25 per cent of the coal is lost in the mining in this country. But room and pillar work does permit freer use of undercutting machines and cheap mining.

"I do not mean to say," continued Mr. Rice, "that the equipment cannot be improved, just as it can be improved in most mines in the United States, but it is a mistake to compare the percentage of coal undercut in the United States with that in England or other European countries as a reflection on European methods.

"As regards the alleged cutting of piece rates by the owners whenever the miners tried to see how much they could produce, I very much question this as a general fact; it is not common sense that they would do so.

"The fact that poor seams are worked at all, should be commendable instead of the practice which prevails in the United States, and regretted by mine operators, that on account of competitive conditions, only the best seams are worked, and which frequently sacrifices or leaves thinner or poorer areas of the coal.

"I have observed, in mines in the Middle West, areas with coal of from 4 to 5 feet thick permanently left in a mine because there was 7 to 9 feet of coal elsewhere, and the miners would not take the thinner coal without such an increased rate that the coal could not be produced at a competitive figure.

"The causes of shortage, in my opinion, are as follows in the order of their importance:

"(a) Strikes.

"(b) Letting up of the miners in the amount of work they have been doing in a shift, on the ground that their day has come and they are no longer going to work as hard as they did in the past.

"(c) Voluntary absenteeism as shown by the official statistics.

"(d) Shortening of the hours of labor.

"And on top of this came (July 16) the Sankey award, reducing by one hour, the hours of labor, and which, according to the best mining authorities in Great Britain, is going to make a most serious reduction in the output."

Scale of Payment Changed

Wage increases are apparent in many localities and often coupled with a change in the scale of payment. For instance, in Arizona all classes of underground labor, up to the middle of July, received the same pay, resulting in a tendency of the more skilled men to avoid the more responsible work, and miners to have no incentive towards greater efforts and promotion to a more responsible job. The new wage scale gives \$5.65 to muckers, \$6.15 to miners, and \$6.40 to timbermen, and should tend to overcome the above tendency.—Bureau of Mines' Minerals Investigations.

POWER SITUATION CALLS FOR REVOLUTIONARY CHANGE

Two of the most important domestic problems facing the United States at the present time concern the supply of power necessary to maintain the industrial activities of the country, and the adequacy of transportation to move the raw materials and finished products involved in these activities. As the coal consumed in the United States engages over a third of the freight capacity of our railroads, and more and more coal is being used, the result is a growing burden upon transportation which must be relieved. The power problem and the transportation problem, therefore, are really different expressions of a single fundamental issue. In this connection the United States National Museum, Smithsonian Institution, has just issued a 50-page bulletin, entitled "Power: Its Significance and Needs," which gives a clear analysis of the whole situation and presents a plan whereby the problems of water power, coal supply and transportation may find an adequate and single solution. This contribution is by Chester G. Gilbert and Joseph E. Pogue, of the Division of Mineral Technology, and is Part 5 of Bulletin 102, the Mineral Industries of the United States, which has already dealt constructively with such matters as coal products, fertilizers, domestic fuel and petroleum.

Quoting from the conclusions of the authors of this Bulletin, it is stated:

"The righting of the power situation requires (1) the establishment of a comprehensive system of electric transmission lines to be administered as a common carrier system like the railways. (2) The provision of such a system will necessitate the coordinated growth of central power stations in coal fields and at water power sites, and in doing so will open to business enterprise a tremendous field of opportunity hitherto closed off from entry, and thus lead to the balanced development of the two major energy resources, coal and water power. (3) The principle of multiple production, recognized and incorporated in national policy, will supplement the additional service gained through the organized employment of the electrical principle; applied to the production of coal-generated electricity, and, through the medium of municipal public utility plants, to the distributive employment of coal, this principle will effectively correlate the recovery of the commodity and energy values, so as ultimately to effect a full saving of the former and an increased gain of the latter, thus permitting a further relative diminution of the amount of fuel calling for transportation in bulky form. The first two points reduce themselves to a single issue, which is purely a business proposition to be handled by a business organization; the third item is more intangible and it is a matter of policy, which, therefore, cannot be delegated or otherwise handled in objective fashion.

"The provision of a common-carrier system of transmission lines, in brief, is the key to the whole problem. Its establishment will remove the retarding influence of high interest rates and antagonistic misunderstanding that has blocked water power development, and will afford the point of departure from precedent in favor of coal-field generation of electricity. Owing to the magnitude of the issue and the manifold lines of progress directly at stake, the development will provide a nuclear point for the establishment of a constructive economic policy, needed not merely for the full development of this field, but as well for the proper unfoldment of the industrial possibilities of the country in general. As such a policy has not developed in the past because of economic sectionalism growing chiefly out of an unequalized development of the energy resources, the nationalization of industrial opportunity attainable through a balanced development of power supply will clear the path of the main obstruction to unified action.

"Thus specific action in respect to establishing a common-carrier system adapted to the power needs of the country will not only go far toward solving the problem of transportation, but it will improve the fuel supply, correct the economic fallacy of drawing upon capital resources while neglectful of income, contribute to the recovery of the values now lost in the consumption of raw coal, lead to an adequate development of electrochemical activities, cut off a needless annual expenditure running well beyond the billion dollar mark and constitute a potent contribution in the direction of stimulating the upgrowth of a constructive economic policy of national scope attuned to the needs of modern industrial development. It is believed that these results would involve national economies, offsetting in large part the cost of the war."

A limited number of these Bulletins are available for free distribution upon application in writing to the United States National Museum, Washington, D. C.

Labor Troubles Affect Markets

The effect of labor disturbances has been notable upon the metal market. Both consumers and producers have been hesitant in planning or deciding upon a definite reconstruction policy. Consumers on the one hand are continually in fear of strikes in their own plants, and in such an event would not wish to have a large amount of raw material tied up in process of manufacture. The producers, or the mining and smelting companies, on their part, naturally do not know to what extent they will be able to fulfil their obligations to the trade and how impending labor unrest will affect them. The threatened railroad strike has also contributed to the difficulty of the situation, as such a strike would profoundly affect both parties and the market.—Bureau of Mines' Minerals Investigations.

**SPURR, LONG IN WASHINGTON,
NEW EDITOR OF THE E. AND M. J.**

J. E. Spurr, a widely known figure in the mining world, has been selected for the editorship of the Engineering and Mining Journal. The editor of that and the other mining trade papers are occupying positions of great and increasing importance to the industry and any change in their editors is a matter of very extended interest.

Josian Edward Spurr was born in Gloucester, Massachusetts, October 1, 1870, son of Alfred Sears Spurr, a Gloucester fishing captain, and Oratia Snow Spurr. He came from early Puritan and Pilgrim stock, being descended on his father's side in the eighth generation from John Spurr, Boston, 1638, and on his mother's side from Nicholas Snow, Plymouth, 1623, who married Constance Hopkins, Mayflower, 1620.

Mr. Spurr attended public schools in Gloucester and thereafter decided to study at Harvard University. On graduation in 1893 he accepted summer employment as an assistant in the Minnesota Geological Survey, and during the year, without assistance, made the first geologic map of the Mesabi Range, then newly discovered. The state appropriation being exhausted, he was advised at the end of the season that there were no further funds to continue the salary of \$60 a month which he had been receiving, but he remained in Minnesota without pay in order to complete the presentation of the field work done on the Mesabi Range. By the spring of 1894 he had prepared a bulletin on the subject which the State Geologist accepted and published. In this bulletin he brought out his discovery of the origin of the Mesabi iron ores from a green iron silicate, an origin which had never before been detected for any of the Lake Superior iron ores. This discovery was afterwards confirmed by the work of Messrs. Leith and Van Hise of the U. S. Geological Survey. There has been some question as to whether the original iron silicate is a form of glauconite or a mineral hitherto unknown, but it is agreed that it formed under the conditions that glauconite is known to form under at the present day.

The bulletin on the iron ores attracted the attention of S. F. Emmons of the United States Geological Survey, who engaged Mr. Spurr as assistant. His first work in the summer of 1894 consisted in helping Mr. Emmons in his study at Leadville, Colo., but after a few weeks he was assigned independent work in the study of the Mercur district, Utah, upon which he published a report issued by the Geological Survey. In this report he assigned the origin of the ore deposits to the after-effects of igneous intrusion, this being the first reversion in American geology to this explanation of the origin of ore deposits since the prevalence of the school of thought introduced by Poncepny, who conceived of ore deposits as due to the action of hot springs of atmospheric origin. This was a reversion to the explanations advanced earlier in Europe, particularly in France.

In 1895 Mr. Spurr, with G. W. Tower, Jr., as assistant, made a geological survey of the Aspen mining district, in Colorado, with its compli-

cated faulting, and as a result of this survey published Monograph XXXI of the Geological Survey.

Reports concerning gold in the interior of Alaska having reached Washington, Mr. Spurr was selected in 1896 to conduct the first Geological Survey expedition into the interior of Alaska. He selected as assistants Mr. H. B. Goodrich and Mr. F. C. Schrader of the Geological Survey, and the three young geologists made the trip without any further personnel in their party, taking turn about in the cooking and other necessary camp work. The trip was made over the Chilkoot Pass on foot in June, 1896, using Chilkoot Indians for packers, and carrying whip saw and other materials for sawing out lumber and building a boat. The opportunity to purchase a boat which had just been built by a prospector at Lake Lindaman, head of the Yukon, however, saved two weeks, and the party continued on their trip, inspecting practically all of the gold diggings then known, including the Forty-Mile, Sixty-Mile and Birch Creek diggings. It was while the party was at Circle City that gold was discovered on the Klondike, and the miners rushed hither from the Birch Creek and Forty-Mile diggings. The expedition progressed so rapidly that he was able to return to Washington by way of St. Michaels and Seattle before the closing in of winter, and a report was at once published on the geology of the Yukon Gold District.

In 1897 Mr. Spurr went to Berlin as a graduate special student in the university, but became disgruntled with Prussian methods and went to Paris to study under Lacroix. From this most pleasant association he was called back for further Alaskan exploration. In 1898 he took charge of the Geological Survey party which entered from Cook Inlet and ascended the Susitna River to the Alaskan Range. Peterboro canoes were used, and on account of the swiftness and other difficulties of the river the trip was very long and arduous. It is said that this was the only time that this river was traversed by boat from the inlet to the mountains, either before or after this expedition. On this trip Mr. Spurr was accompanied by Mr. W. S. Post, now city engineer of Los Angeles, as topographer of the U. S. Geological Survey; also by Mr. Oscar Rohn, now manager of the Butte Central Copper Company; Mr. Hinkley, now in the lumber business in Maine, and three others. Mr. Hinkley made botanical observations and Mr. Rohn assisted in the surveying. It was intended to take Indians from Cook Inlet but none was willing to undertake the trip.

At that time little was known of the geography of Alaska, the Indians having informed the party that the Susitna River had its source in a swamp, but on getting near the head it was found to rise in the great Alaskan Range. The weary portage of 25 miles or more was made across this range, and the party encountered a torrential stream on the opposite side. Prudence would have suggested a careful progress down this stream, but the loss of provisions due to frequent

upsettings had left the party so short of provisions that no choice was possible. The two canoes remaining out of the original three were embarked in, and 100 miles of extremely torrential waters were run through in one day. These waters later proved to be the main east fork of the Kuskokwim River, and the party traveled 800 miles down the river without further inconvenience except shortage of food. At the mouth of the Kuskokwim they encountered a Moravian Commission to the Eskimo, where they were fed up. Here the party divided, some taking the portage to St. Michaels at the mouth of the Yukon and obtaining a boat to Seattle. The rest of the party, consisting of Messrs. Spurr, Post, Rohn and Hartman, with the one canoe remaining, turned southward and through a series of hitherto unmapped rivers and lakes and cross mountain portages, arriving at the trading post of Nushagak on Bristol Bay. Provisions running entirely out on this trip, the party subsisted for some time on fresh salmon without salt. This trip was in the Eskimo country and the Eskimos were a great assistance. From Nushagak the trip was made across Bristol Bay in Eskimo skin canoes, and leaving practically all baggage the trip was made on foot across the Alaskan peninsula to Katmai opposite the island of Kodiak. In this trip the slumbering volcano of Katmai was passed over, which has since burst out on a stupendous scale. At Katmai, after a considerable wait, they fortunately picked up a steamer which had been looking for the party all along the coast. During this trip of eight months the party had no connection with the outside world. Much of the route had never before been traversed by white men, and aside from the geological and other studies rough maps were made of the general geography. These were the first which had ever been available to geographers over a very large territory. The results of this expedition were published in a report of the Geological Survey entitled "Geology of Southwestern Alaska."

Through his studies of the Yukon gold fields Mr. Spurr arrived at the conclusion that the auriferous quartz veins were the end product of siliceous magmatic differentiation and was the first geologist in any country to discover this vital connection. Veins of barren quartz, however, had long been interpreted by some geologists as connected with pegmatites, but the origin of pegmatites was in great dispute, although one school had long explained them as the last phase of granitic intrusion. In connection with these studies Mr. Spurr pointed out in subsequent papers, before the Institute of Mining Engineers and elsewhere, the world-wide relation of siliceous igneous rocks to gold deposits. He also defined in this connection an important class of rocks more siliceous than granites which he called alaskites. These definitions and conceptions have long been very commonly accepted.

In 1899 Mr. Spurr was commissioned to make a reconnoissance of Nevada and adjacent California in order to fill a gap in the geologic map of the United States and carried out this work.

In addition to completing the geologic map the result of this work was a bulletin entitled "A Reconnoissance of Nevada and Adjacent California south of the Fortieth Parallel."

In 1900 the Turkish Government applied to the State Department in Washington for a geologist and mining engineer, and Mr. Spurr was recommended. He went to Constantinople in the capacity of mining engineer to the Sultan and made several examinations in Asia Minor and Macedonia, including the goldfields of Macedonia which had been worked as early as the time of Philip of Macedon, the father of Alexander the Great. In the course of this expedition his party was almost trapped by a large force of brigands, and a conflict ensued which resulted in the wiping out of one detachment of brigands and the withdrawal of the expedition to the vicinity of a garrisoned town. Mr. Spurr was appointed by the Sultan as a member of a commission to revise the mining laws, the other members being the Minister of Mines and the Grand Vizier. German influence was at that time, however, very strong, and Mr. Spurr came to the conclusion that on account of political conditions the future of Turkey would not be a smooth one. Therefore he returned to the Geological Survey in Washington and undertook to examine the newly discovered camp of Tonopah, Nevada, which he visited repeatedly and on which he wrote several reports and papers. Subsequently, assisted by Sydney H. Ball and George H. Garrey, he made a survey of the geology and ore deposits of the Georgetown quadrangle in Colorado.

In 1906 Mr. Spurr left the government employment to become chief geologist for the American Smelting & Refining Co., American Smelters Securities Company, and allied organizations, and henceforth spent a great deal of time in Mexico as well as other parts of North America in development work at operating properties, as well as mine examinations. He retained his connection with these companies until he left New York in 1912, having the title of consulting engineer during the latter part of his connection. In 1908 the consulting firm of Spurr & Cox, Inc., was organized, with offices in New York, Denver, El Paso and Mexico City, specializing in mine examinations, geological surveys, mine operation, mill construction, and other forms of mining engineering. Besides Mr. W. Rowland Cox and Mr. G. H. Garrey, as partners, the staff included many engineers, such as Godfrey D. Doveton (formerly of the firm of Doveton & Purington of Denver), Carl O. Lindberg, J. H. Farrell, H. DeWitt Smith, John G. Barry, Louis Garbrecht, M. B. Huston, Wilbur H. Grant, Marden W. Hayward, W. D. Blackburn, M. P. Wylie, and others.

In 1912 Mr. Spurr removed to Philadelphia and became vice-president in charge of mining of the Tonopah Mining Company of Nevada, and continued in this capacity until September 1, 1917. During this period, while on a trip to examine gold deposits in the Hudson Bay country in Northern Manitoba, the Mandy copper mine was discovered by an engineer who attached himself to the party. This mine was

opened up under Mr. Spurr's management and proved to be the first producing mine in Manitoba. The ores, which ran 20 per cent copper, together with some gold and silver, were rich enough for transportation in winter over a long and picturesque route to the northern terminus of the railroad facilities at The Pas, from which they were shipped for smelting to Trail, B. C. Several million dollars worth of ore has been produced by this mine to date. In Nicaragua he developed the Eden mine, a gold property which developed into perhaps the most important enterprise in Nicaragua, and in which several million dollars of gold ore, averaging about \$14 per ton, have already been blocked out. Near this he developed the Rosita mine, which had formerly been worked for gold and abandoned, and developed here 1,500,000 tons of copper ore averaging between 5 and 6 per cent copper, and some gold. This mine has not yet been equipped. In the Breckenridge district, Colorado, he consolidated several placer enterprises, including that of the General Development Company, owned by the Lewissohns, into the Tonopah Placers Company, which has had a successful history.

At the outbreak of the war Mr. Spurr went to Washington, and soon after attached himself to the Shipping Board on a dollar a year rating. Here he became associated with Prof. C. K. Leith of the University of Wisconsin on a Committee on Mineral Imports, representing both the Shipping and War Trade Boards and charged with formulating a program for reducing mineral imports in order to save shipping for military service, this being the time of the most acute ship shortage. Later Mr. Pope Yeatman of the War Industries Board became the third member of this committee. On the termination of the work of this committee Mr. Spurr accepted the position of Executive of War Minerals Investigations for the Bureau of Mines, under a special fund of \$150,000 appropriated by Congress, the work of this organization covering all fields of the mining industry where any help could be given which assisted in carrying on the war successfully, and about 100 engineers, including many volunteers, were engaged in various phases of this work. While on the Shipping Board and the Bureau of Mines Mr. Spurr perceived the patriotic necessity of studies as to the control, both political and commercial, of the world's mineral resources. Having mapped out a plan of treatment he secured the voluntary cooperation in this work of many geologists, mining engineers and chemists, who undertook to contribute studies to this series. About thirty studies of this kind were prepared and issued by the Department of the Interior during the war for confidential government use only. The main thesis of this series was the distribution and control of the world's mineral resources through state sovereignty and through commercial control, whether by ownership of mines, control of smelting plants, of transportation, of marketing, or otherwise, with a special bearing on the control by different nationals in countries outside the home countries, and the

political events which had resulted or were likely to result therefrom.

On the termination of the war Mr. Spurr resigned from this activity, and on the passage of the War Mineral Relief Act undertook to organize the force of field investigators, including engineers and auditors, with the title of chief engineer. Having organized this work he accepted the invitation of the Engineering and Mining Journal to become its editor.

In addition to the publications above mentioned Mr. Spurr is the author of numerous papers published in the transactions of different societies and in other publications. In 1902 he published "Geology Applied to Mining," pointing out the applications of geology to the mining engineer and the miner. This book not only had a wide popular circulation but has been used as a text-book in various mining schools in the United States and foreign countries. About 1905 he became convinced of the need for a journal representing mining geology and interested other mining geologists in the plan, with the result that the journal now called Economic Geology was founded, which became the principal journal in the economic field in the world, the subscription list being to a surprising degree world-wide. Shortly after its founding, Economic Geology took over and absorbed the American Geologist, leaving the field of geological journals in America to the Journal of Geology in Chicago, covering the general geological, and Economic Geology covering the applied side of the science.

About 1907 Mr. Spurr announced a theory of ore-deposition which involved the origin by siliceous magmatic differentiation, not only of auriferous quartz veins as he had previously contended, but of most metalliferous veins, and further that veins containing different minerals, such as copper, lead, zinc, gold, etc., were deposited from the same solutions under varying conditions of temperature and pressure. These principles have met with a widespread acceptance.

Petroleum Storage Increase

The storage of domestic crude petroleum in the United States showed a more or less gradual decline during 1918, during which time some 20,000,000 barrels of oil were withdrawn from storage, while since the first of the year the amount of oil in storage has shown a more or less gradual increase of about 8,000,000 barrels, and on June 30, 1919, the total reserve approximated 136,000,000 barrels.—Bureau of Mines' Minerals Investigations.

Feels Competition Keenly

Great Britain is still struggling with the problem of producing iron and steel for local consumption against the competition of the United States, Germany, France and Belgium. The high costs of coal, coke and labor have made this problem very difficult, but conditions appear to be improving, and a fairly steady output of iron and steel has been maintained.—Bureau of Mines' Minerals Investigations.

GOLD AND SILVER OUTPUT FOR 1918 FINAL FIGURES

The Bureau of the Mint and the Geological Survey have issued the following joint statement of the final compilation of the production of gold and silver in the United States during the calendar year 1918:

Compared with the 1917 production—gold \$83,750,700, and silver 71,740,362 ounces—these figures indicate a reduction in gold output of \$15,104,000 and in silver output of 3,930,223 ounces.

State or territory	Gold		Silver	
	Ounces	Value	Ounces	Value ¹
Alaska.....	455,920	\$9,424,700	802,743	\$787,057
Alabama.....	34	700	2	2
Arizona.....	270,078	5,583,000	6,831,465	6,697,978
California.....	811,945	16,784,400	1,432,812	1,404,815
Colorado.....	615,558	12,724,700	6,900,266	6,765,435
Georgia.....	218	4,500	45	44
Idaho.....	33,930	701,400	9,396,009	9,212,411
Illinois.....			8,218	8,057
Maine.....	34	700	6,338	6,214
Maryland.....			164	161
Michigan.....			516,294	506,206
Missouri.....	3	60	42,214	41,389
Montana.....	158,704	3,280,700	16,378,263	16,058,232
Nevada.....	324,134	6,700,440	9,931,969	9,737,898
New Hampshire.....			691	678
New Mexico.....	33,237	687,080	773,662	758,545
North Carolina.....	213	4,400	100	98
Oregon.....	61,228	1,265,700	129,150	126,626
Philippine Islands.....	62,404	1,290,000	13,000	12,746
Porto Rico.....	5	100		
South Dakota.....	324,083	6,699,400	161,232	158,082
Tennessee.....	271	5,600	105,829	103,761
Texas.....	1	20	579,158	567,841
Utah.....	152,526	3,153,000	13,492,555	13,228,911
Vermont.....	48	1,000	4,891	4,795
Virginia.....	19	400	1,814	1,779
Washington.....	16,148	333,800	300,000	294,138
Wyoming.....	43	900	1,255	1,230
Total.....	\$3,320,784	\$68,646,700	\$67,810,139	\$66,485,129

¹ At the average New York dealer's buying price for the calendar year 1918 of \$0.98046.

CLOSING MUNITION PLANTS
LOWERS OIL CONSUMPTION

The lubricating oil output for the first six months of 1918 and for a similar period in 1919 is practically the same, amounting to approximately 409,000,000 gallons, but it is surprising to note a decrease of 20,000,000 gallons in the domestic consumption for the first half of this year. The use of lubricating oils may be considered as a key to our industrial activity, and possibly the decrease in demand was due to the closing down of many of the large munition plants, and that during the first half of this year the nation was not entirely converted from a war to a peace basis.—Bureau of Mines' Minerals Investigations.

Fuel Oil Market Easy

Upon signing of the armistice there was a remarkable decrease in the activity on the part of the allied fleets, which has resulted in a markedly less demand for fuel oil. This resulted in a flooding of the fuel oil market, which is today temporarily easy. The refinery statistics show the following figures for the first six months of 1919 as compared to the first six months of 1918: An increase in production from refineries of 107,000,000 gallons; exports decreased by approximately 213,000,000 gallons; domestic consumption increased only 83,000,000 gallons; shipments to insular possessions increased from 2,000,000 to 58,000,000 gallons. The stock of fuel and gas oil at the refineries for June 30, 1919, showed an increase over June 30, 1918, of 261,000,000 gallons.—Bureau of Mines' Minerals Investigations.

FIXED NITROGEN COMMISSION COMPLETES EUROPEAN SURVEY

On June 4, 1919, a commission, known as the "U. S. Fixed Nitrogen Commission," and consisting of Col. J. W. Joyes, Ordnance Department, U. S. A., Chairman; Lieut. Col. A. B. Lamb, C. W. S.; Lieut. Col. F. H. Wagner, Ordnance Department; and Capt. R. S. Tour, Ordnance Department, was sent to Europe for the purpose of obtaining information as to the present state of nitrogen fixation there. The commission visited France, the portion of Germany occupied by the Allies, England, Norway and Sweden, saw a number of representative plants for the fixation of nitrogen by the several methods, and returned to Washington early in September.

The commission had a most interesting and instructive trip, bringing back information as to the development of the processes of fixation, and as to the use of the several marketable products, especially in explosives manufacture and in the fertilizer industry.

Especially interesting from a civil engineering standpoint were the water-power developments of the Norsk-Hydro arc plants at Rjukan, Norway, and of M. Ferdinand Gros in the Pyrenees Mountains in southern France. In the former of these, water from a lake high in the mountains was used successively in two 100,000-K. W. power plants, each with a head of 250 meters, and later in several other plants with lower heads. In the latter, M. Gros has tapped a lake in the Pyrenees fed by perpetual snow, and after successfully overcoming the difficulties of leading this water something over 20 miles through quite rough country, is able to use it with a head of about 800 meters, developing about 30,000 k. w.

M. Gros, a most progressive Frenchman, who has become during the war very noted for his introduction and production of liquid NO_2 for use with benzine in air bombs, expects to use the Pyrenees power above mentioned in a new factory, now nearly completed, where he will make cyanamid for fertilizer use, and also other products.

During the war a number of cyanamid plants were built or commenced in France by private corporations and by the government. Some of these were not finished at the time of the armistice and are not therefore available for production in the future, but there still remains in France a considerable increase due to the war in the capacity for manufacturing cyanamid. Prominent officials of the French government are keenly alive to France's need for a more efficient agricultural system, using much more fertilizer than heretofore. There has been much effort to stimulate the use of fertilizer by pointing out its advantages and by scientific research and demonstration. Arrangements have been made for marketing a considerable quantity of the cyanamid produced by the French government in order that this cheap nitrogen compound made available by the war shall not be lost to agriculture. Although some portion will be converted into the more popular

form of ammonium sulphate, etc., vigorous efforts are being made to use the cyanamid as such on account of the great economy in so doing.

For years Germany has been stimulating by governmental researches, demonstrations and publications, the use of cyanamid as such. These efforts did not cease during the war, but were continued, and it appears that they have had much effect and that the German farmers are using cyanamid for direct application to soil to a considerable extent. Although many of Germany's cyanamid factories, the capacity of which was greatly increased during the war, are now idle for lack of raw materials principally, these factories remain available to produce a great quantity of this cheapest form of fixed nitrogen fertilizer.

There were also considerable increases in the cyanamid producing capacity of Scandinavia during the war, and the plant of the Norsk Hydro company's celebrated Birkeland-Ide arc fixation process was practically doubled in 1915-1916. This plant makes, as its principal normal product, Norway saltpetre, or calcium nitrate, used in Norway especially as a fertilizer for direct application to the soil. It has also been sold during the war to munitions manufacturers. This plant was one of the most interesting seen on the trip as it demonstrates on such a large scale how a process with an extremely low technical efficiency can, under favorable circumstances and with clever engineering, be made to yield a handsome profit. This plant has enormous capital invested in a plant with most advanced hydro-electric and electro-chemical installations in substantial buildings of most handsome and suitable design.

One of the very remarkable attainments of this war was the development, by the German Bodische Aniline und Soda Fabrik, of Professor Haber's synthetic ammonia process in their two plants at Ludwigshaven and Merselburg. This process involves a number of most interesting steps in chemical manufacture. The outline of the process is generally known as the production of a mixture in suitable proportions of nitrogen and hydrogen gases and the continuation of these into ammonia. All chemists know the difficulties involved in the necessity for using a catalyst to stimulate the reaction, which even then must be at high pressure and temperature, and get commercial results, and the necessity for having the gas mixture most carefully purified in order to avoid poisoning the catalyst. The B. A. S. F. plant existing on a small commercial scale at the commencement of the war was greatly expanded under governmental stimulation when the probable inability to bring in enough Chilean nitrate for the war needs became apparent. The plant at Ludwigshaven, which was visited by the commission, was not in operation, but the commission had an opportunity to get a fair general idea of the magnitude of the plant, of the difficulties encountered, and of the apparent success with which they had been met. This plant, as it stands, is said to have a capacity of over 200 tons of ammonia per day and has installations

for using this to make nitric acid, sodium nitrate, and several other products useful in agriculture as fertilizers, and in munitions and other manufactures. The plant is reported to represent an investment of several hundred million marks of the B. A. S. F capital, and undoubtedly a substantial government subsidy. Notwithstanding the fact that the plant gives the impression of great complexity and therefore of large requirements in skilled and other labor for operation and maintenance, there is no doubt that whatever operating troubles occurred, and there must have been many, the plant did produce the much needed ammonia; and if the statements made as to the writing off during the war of a substantial portion of the value of the plant be true, the plant must be credited with commercial success under the conditions of the war. How this plant and the smaller one at Mersburg will meet the competition of the future, with the accompanying high prices for materials and labor, of course, remains to be seen.

England has done some very serious and valuable scientific research work upon the fixation problem, and if the war had continued would undoubtedly have constructed plants to use some of the several processes.

ASKS FUNDS FOR EXTENDED COAL
STATISTICAL COMPILATION

In requesting an appropriation for additional statistical work by the Geological Survey, Secretary Lane wrote:

"I am transmitting herewith a supplemental estimate of appropriation, in the sum of \$40,000, for the collection, by the United States Geological Survey, of additional statistics of coal and coke production, distribution, and consumption, including a special inventory of present stocks of coal and requirements for the winter of 1919-20, with the request that it be submitted to the President of the Senate for consideration in connection with the deficiency bill now pending.

"A similar appropriation was asked by me in January last (House Document 1733, 65th Congress, 3d session) as a provision for the continuation after June 30 of work then being conducted on a much larger scale by the Fuel Administration. As foreseen by me, the need of authoritative statistics frequently collected and promptly issued has continued and the investigation now being conducted by a special committee of the Senate shows the authorization of a special canvas of the country's fuel requirements to be a matter of real exigency. I have therefore been urged by the Chairman of the sub-committee of the Committee on Interstate Commerce to renew the request for this appropriation.

Talc Production Increased

The production of talc in the United States has increased about 90 per cent in the last ten years. During this period the production of ground talc has increased about 115 per cent.—Bureau of Mines' Minerals Investigations.

COAL-TAR BILL PASSES HOUSE;
LICENSING FEATURE RETAINED

The House of Representatives on September 26 passed the bill regulating the importation of coal tar products. The bill, as passed, provides for a licensing system. The strong fight made against that feature of the bill was unsuccessful. The important change made by the House in the bill, as introduced, was to substitute the U. S. Tariff Commission as the administering agent instead of the Dye Commission, composed of manufacturers and consumers.

SALINE LAKES TO BE GREATEST
SOURCE OF POTASH PRODUCTION

During the next three or four years at least, the production of potash from the saline lakes will continue to be the greatest source of production. The total production of available potash which can confidently be expected during the next two years, if steps are taken to assure a market at a price of at least \$2.00 per unit, is estimated at about 125,000 tons, obtained about as follows:

1. From saline lakes:	Tons
Nebraska.....	55,000
California.....	50,000
2. Organic sources:	
(Waste molasses, beet sugar waste, wood ashes).....	6,000
3. Cement industry.....	8,000
4. From blast furnace industry.....	1,000
5. Special types of silicate rocks and alunite.....	6,000

If certain projects are as successful as anticipated by the interested concerns the production may be considerably higher than the above.—Bureau of Mines' Minerals Investigations.

WILL TRY TO STABILIZE
FERTILIZER MATERIALS PRICE

Announcement has been made at the Office of the Secretary of Agriculture that the department, in order to stabilize the prices of raw fertilizer materials as well as the prices for mixed fertilizers, has under consideration not only the question of fair prices for mixed fertilizers for the spring of 1920, but also of such raw materials as sulphate of ammonia, tankage, dried blood, fish scrap, rock phosphate, bulk acid phosphate and cottonseed meal. The manufacturers of cottonseed meal have been invited to a conference in Washington on October 7 at 10 a. m. to consider the cost of manufacture and other facts which will enable the department to arrive at a fair price for this commodity, and the producers of the other raw materials have been invited to present such evidence as they may desire on the cost of production on the 6th day of October at Washington. It is the belief of the department after investigation that there should be a considerable reduction in the prices of all these fertilizer materials. The manufacturers of mixed fertilizers will send in their proposed prices for the spring of 1920 at a later time.

MINERS READY TO HOLD UP**PUBLIC FOR \$3,000,000,000 ANNUALLY
SAYS NATIONAL COAL ASSOCIATION**

The National Coal Association issued the following statement on September 28:

"The United Mine Workers of America are trying to hold up the people of the United States for a one-billion dollar annual increase in the cost of coal. They have announced their intention of striking November 1 unless their demands are granted, and that is what their demands mean, in dollars and cents. The strike will be called in violation of a contract entered into between the miners and the bituminous operators and approved by the Government, under which the miners and operators both agreed to continue during the period of the war, the wage scales, hours and working conditions agreed upon and still in effect. The operators have maintained this agreement.

Obviously, the country is at war until the Treaty of Peace is ratified and proclaimed. The miners understand this. They did not contend that the agreement was terminated by the signing of the armistice, but continued to work under it. They have now decided to take advantage of the shortage of coal and the imminence of winter to enforce their demands in violation of their agreement.

"The miners demand a six-hour day from the time they enter the mine until they leave it and a five-day week. The present scale calls for an eight-hour day in the working place, and a six-day week. A six-hour day from the time of entering the mine until leaving means approximately five hours in the working places. Thus the demand for shorter hours means an actual reduction from forty-eight hours a week, the present schedule, to about twenty-five hours a week. Working hours would be cut almost in half. This in the face of the fact that we are now short of coal in this country and throughout the world and that increased and uninterrupted coal production is vital.

"On top of this, they demand a 60 per cent increase in wages.

"The effect of these demands, if granted, would be to almost double the present cost of mining coal. In round figures, the increased cost would approximate one billion dollars a year.

"Any such increased cost must necessarily be paid by the public. The prices which bituminous operators have obtained at the mines this year have been materially less than the prices of last year, under government control, and their profits have been reduced to the minimum. For example, exhibits filed by the Pittsburgh operators with the Senate Committee investigating the coal situation show that their profits are less than one-half those of last year and average but 3 per cent on the capital invested. This is typical of the conditions in the industry generally.

"With such a narrow margin of profit it is impossible for the operators to absorb any increase in wages. In fact, the operators have found it necessary to protect themselves by pro-

viding in the contracts for the sale of coal that the contract prices are to be readjusted if there should be any increase in wages, to cover the cost of such increase.

"Therefore, this demand for increased wages, while it is made upon the operators, is necessarily a demand on the public.

"Last year the United Mine Workers requested a revision of the agreement to give them increased wages. Fuel Administrator Garfield refused the request on the ground that it was not justified.

"There are approximately 600,000 men employed in the bituminous mines of the country, of whom about 400,000 are employed in the unionized districts. This comparatively small group of 400,000 men is now attempting to hold up the 110,000,000 inhabitants of the United States for one billion dollars a year. To enforce their demands, in disregard of their contract, they have announced their determination to shut down industrial America and freeze its citizens, if need be."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of THE MINING CONGRESS JOURNAL, published monthly at Washington, D. C., for October 1, 1912.
City of Washington,
District of Columbia ss.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared E. Russell Coombes, who, having been duly sworn according to law, deposes and says that she is the business manager of THE MINING CONGRESS JOURNAL, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of Publisher—The American Mining Congress.
Postoffice address—Washington, D. C.

Officers:

Bulkeley Wells, President, Denver, Colo.

Harry L. Day, First Vice-President, Wallace, Idaho.

M. S. Kemmicer, Second Vice-President, New York City.

George H. Crosby, Third Vice-President, Duluth, Minn.

J. E. Callbreath, Secretary.

Editor—J. E. Callbreath.

News Editor—Paul Wharton.

Business Manager—E. Russell Coombes.

2. That the owners are (give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): The American Mining Congress—a corporation, not for profit. No stockholders.

3. That the known bondholders, mortgages, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

E. Russell Coombes,

Business Manager.

Sworn to and subscribed before me this fifth day of September, 1912.

(Seal.)

THOMAS C. WALLER,

(My commission expires February 20, 1922.)

MINING COSTS IN BITUMINOUS
FIELDS OF PENNSYLVANIA ANALYZED

The Federal Trade Commission has made public a report on the cost of producing bituminous coal in Pennsylvania. The period covered ends with December, 1918, but the cost conditions shown for the last quarter of 1918 can be taken as generally representative of those of today. Cost is analyzed into labor, supplies and general expense and selling prices are also given.

shown for the following six significant periods; the year 1916 (before the United States entered the war); January-March, 1917 (when the 1916 wage scale was still in operation); April-August, 1917 (war was begun, a higher wage scale went into effect, and under the influence of a great demand, prices mounted rapidly); September-October, 1917 (immediately following the governmental fixing of maximum prices for coal not sold under contracts made prior to August 21, 1917, and establishment of the Fuel Administration); November, 1917-March, 1918 (follow-

SOUTHWEST FIELD

Period	Costs				Sales realization	Margin
	Labor	Supplies	General expenses	Total f. o. b. mine		
January-March, 1918.....	\$1.36	\$0.27	\$0.32	\$1.95	\$2.72	\$0.77
April-June.....	1.28	.26	.29	1.83	2.49	.66
July-September.....	1.31	.28	.28	1.87	2.43	.56
October-December.....	1.38	.36	.32	2.06	2.40	.34
Year.....	\$1.33	\$0.29	\$0.30	\$1.92	\$2.50	\$0.58
Production for year.....	87,963,186 tons.					

CENTRAL FIELD

Period	Costs				Sales realization	Margin
	Labor	Supplies	General expenses	Total f. o. b. mine		
January-March, 1918.....	\$1.58	\$0.23	\$0.30	\$2.11	\$3.04	\$0.93
April-June.....	1.57	.25	.30	2.12	3.11	.99
July-September.....	1.61	.28	.30	2.19	3.02	.83
October-December.....	1.71	.35	.37	2.43	3.03	.60
Year.....	\$1.62	\$0.27	\$0.32	\$2.21	\$3.05	\$0.84
Production for year.....	63,962,057 tons.					

The report is in great detail. For the year 1918 it covers the operations of 624 operators who mined about 152,000,000 net tons from 1,251 mines, and for the years 1916-1918 it covers the operations of 50 operators who mined about 32,000,000 net tons annually.

All the bituminous mining in Pennsylvania is done in the two fields, the southwest and the central. The foregoing summary table presents the principal facts concerning 1918:

NOTE.—All units are shown per ton of 2,000 pounds.

In this report the margin means the difference between sales realization and the total f. o. b. mine cost. Selling expense, interest and taxes have to be paid from this margin.

For the period 1916-1918 similar figures are

ing adoption of increased wage scale); April-December, 1918 (during this period practically the entire output of coal was subject to the governmental maximum prices, most of the previous contracts having expired March 31, 1918).

The figures in the following tables are averages. The detailed tables in the report show for each field a wide range between the highest and lowest cost producers. The costs of 90 per cent of the tonnage, however, lie within a reasonable cost range.

The effect of governmental regulations and of prices on the production of coal is analyzed at length in the report, and it is found that under regulation, in the face of steadily rising costs in each field, the sales realizations either decreased

or showed only a slight increase over the period of April-August, 1917, immediately preceding regulation.

It is also clear that the coal shortage during the winter of 1917-18 can in no way be attributed to prices fixed by the Government, but was directly caused by lack of adequate transportation. The 50 representative operators whose costs appear in the above table mined less coal from April to October, 1917 (when they obtained their highest margins) than from April to October, 1918 (when their margins were much lower).

What regulation of prices really did was, first, to check abnormal rise in prices, due to frantic bidding by the consumers for a supply insufficient to meet the demand; and second, to establish prices and maintain conditions which, while allowing the operators materially lower margins, yet were ample to secure the increased output which was vitally necessary to win the war.

The commission publishes with its report a chart which is especially interesting. It shows the distribution, at different periods, of each

dollar paid by the purchaser, between the items of labor, supplies, general expense, and margin. It shows that labor received 60 cents out of the dollar in 1916, about 40 cents (35 in the Southwest and 43 in the Central Field) during the period April-August, 1917, just before governmental regulation, and 56 cents during April-December, 1918, when the Fuel Administration's regulations were in full effect. The table shows that labor cost increased 65 per cent (from \$0.82 per ton in 1916 to \$1.35 in 1918) in the Southwest Field, and 88 per cent (from \$0.92 per ton to \$1.73) in the Central Field.

The commission strongly urges the need of the regular gathering and publication of current costs and prices, as being of the greatest value to the public, the coal trade and the coal miner.

The Pennsylvania report of the commission is part of the results of the work of the Commission for the Fuel Administration. Similar data will be published covering anthracite and all the other bituminous fields in the country.

SOUTHWEST FIELD

Period	Costs				Sales realization	Margin
	Labor	Supplies	General expense	Total f. o. b. mine		
Year 1916.....	\$0.82	\$0.12	\$0.25	\$1.19	\$1.36	\$0.17
January-March, 1917.....	.88	.17	.30	1.35	1.99	.64
April-August, 1917.....	1.02	.19	.28	1.49	2.89	1.40
September-October, 1917.....	1.06	.21	.28	1.55	2.79	1.24
November, 1917-March, 1918.....	1.38	.26	.30	1.94	2.76	.82
April-December, 1918.....	1.35	.27	.26	1.88	2.43	.55

CENTRAL FIELD

Year, 1916.....	\$0.92	\$0.10	\$0.30	\$.32	\$1.40	\$0.08
January-March, 1917.....	1.12	.15	.35	1.62	2.26	.64
April-August, 1917.....	1.30	.26	.36	1.92	3.02	1.10
Sept.-October, 1917.....	1.38	.27	.38	2.03	3.01	.98
November, 1917-March, 1918.....	1.70	.27	.37	2.34	3.27	.93
April-December, 1918.....	1.73	.31	.34	2.38	3.11	.73

Reconstructing Rapidly

Germany seems to have made greater progress toward reestablishing her iron and steel industry than the other European countries, especially considering the great handicap under which she is working. Reports indicate that Germany is to be reckoned with in the world market. A shrewd move on their part seems to be the efforts to have foreign capital become financially connected with German plants, and no doubt at the same time become themselves financially interested in foreign plants, thereby causing intimate relations which will stimulate trade.—Bureau of Mines' Minerals Investigations.

Bleaching Power of Fuller's Earth

The bleaching action of fuller's earth is independent of its chemical composition, but depends entirely upon its selective power of absorption or capillary action. The slight variations in the analysis of the earth bear no relation to its bleaching powers. As is well known, the main use of fuller's earth is for the bleaching of oils, and the gravity method is used in preference to agitation. The main object sought is to get the lightest possible color with the most prolonged use of the earth, the renewal of which is accomplished by burning.—Bureau of Mines' Minerals Investigations.

COST OF LIVING DIRECTLY AFFECTED BY USE OF ENERGY RESOURCES

Our present methods of utilizing the three most important of the country's energy resources—coal, oil, and water power—are extremely wasteful and contribute distinctly and heavily to the present high cost of living. To point out the means of remedying this wastefulness and thus effect a saving to the country of well over a billion dollars a year in the matter of energy supply, is the purpose of a paper just issued by the U. S. National Museum on "The Energy Resources of the United States: A Field for Reconstruction," by C. G. Gilbert and J. E. Pogue, of the Division of Mineral Technology of the Museum.

During the war the aim of the whole country was to speed up industry and produce sufficient materials to win the war. Now that peace conditions again prevail, the problem is one of reconstruction, of building up again the country's normal production, and of making good the enormous waste of a gigantic war of destruction—the hundreds of ships lost to commerce through the horrors of submarine warfare, the thousands of tons of metal shot away on the battlefields of France, all the countless forms of waste incurred in a struggle of great nations. An important step in reconstruction is to eliminate waste in the use of our resources.

On the social side, the manner in which our energy resources are used bears directly upon the problem of wages in relation to the cost of living. The United States has been able to maintain a wage scale higher than other nations only by virtue of the extent to which man-power has been replaced by machine-power in the "dirty work" of industry. It is estimated that the work done annually in the United States by mechanical means, if done by man-power, would require the labor of three billion hard-working slaves. This means that the use of mechanical power gives to each individual in this country the equivalent of thirty servants. The efficient and coordinated utilization of our energy resources provides the means for lowering the cost of production and releasing man-power for more skilled work. Thus by the proper attention to coal, oil and water power, the authors point out, we can keep the wages of labor at a generous level and at the same time reduce the cost of living. This bulletin represents a carefully worked out plan for bettering conditions by attacking fundamental issues and commends itself to the attention of every citizen interested in the national welfare.

The authors consider the three energy resources in turn, pointing out the wastefulness of the present methods of utilization and suggesting corrective measures.

Coal is the basis of organized life—the home, industry and commerce are entirely dependent upon it. Under the present conditions, it is failing to live up to that responsibility. It is wastefully mined because of unnecessary conditions of competition; it is wastefully distributed as a result of unnecessary transportation to regions already supplied with water power or

with coal of a lower grade than that transported; it is wastefully used because the numerous valuable by-products resulting from burning coal are not recovered. The wastes in mining may be decreased by considering coal as a public utility and eliminating undue competition, by integrating the mining operations—organizing them to work together instead of in competition. Unnecessary distribution of coal may be reduced by developing water power in favorable regions, and by improving methods of utilizing the large quantities of lower grade coal in the regions where it occurs, doing away with the necessity of hauling high grade coal to those localities. The waste in utilization of coal may be eliminated by establishing municipal public utility fuel plants to convert coal into gas for heating purposes, at the same time recovering the valuable by-products, ammonia, benzol, and tar. This method of community use of coal will give cheaper fuel, end the smoke nuisance, relieve transportation, and cause the growth of a great coal products industry, whose ultimate possibilities are beyond the grasp of imagination.

Our resources in petroleum, from which gasoline, kerosene, and lubricating oils are derived, have been drawn upon with startling rapidity, the supply having already suffered serious depletion, so that measures to prevent unnecessary waste of this vital material assume an immediate importance. The waste in utilizing this substance is almost unbelievably high, scarcely 10 per cent of the total value being recovered from the petroleum in the crude state. The unmined supply now remaining in the United States is about seventy barrels per person. The waste is due to the lack of adjustment between economic considerations in production and the peculiar geological conditions under which petroleum occurs. The geological reservoirs of oil, though by nature indivisible, are arbitrarily divided into small holdings for the purpose of individualistic production. This situation leads to a series of wastes that consume a great part of the petroleum. A remedy can be applied only by reshaping the methods of production to fit the peculiar occurrence of the raw product, through the development of a new economic policy.

Only a small fraction of the water-power resources of the country is developed. There are two reasons for this: first, the apparent abundance of coal and oil for power purposes, and second the high rate of interest demanded by capital for water-power development and the legal restrictions on water-power rights under Federal control. The full development of the country's water-power possibilities calls for the establishment of a nation-wide system of electric transmission lines to be handled as a common-carrier system like the railways. This will entail the establishment of central power stations in coal fields and at water-power sites.

In concluding, the authors reduce the whole energy situation, an extremely complicated subject, to a fundamental basis in which two courses of action on the part of the Government will bring about the proper development of the whole matter.

1. The provision of a common-carrier system for the transmission of electrical energy, which will lead to a balanced development of coal power and water power, and serve as a coordinating influence in the building up of municipal public-utility fuel plants.

2. The application of a constructive economic policy to the production of petroleum, which will largely correct the wasteful methods which are now leading to a premature exhaustion of the petroleum resource.

A copy of this report, while the edition lasts, may be obtained by addressing the U. S. National Museum, Washington, D. C.

AUSTRIAN MAGNESITE HAD WORLD'S COMMERCIAL SUPREMACY

The facts that the Austrian magnesite deposits are large and are easily quarried, that they are within easy reach of transportation facilities, and the additional fact that labor, at least before the war, was cheap have all tended to give Austrian magnesite commercial supremacy in the world's markets. These conditions, moreover, help to explain the success which Austrian magnesite has achieved in the past and indicate the possibility of the competition which it may be able to exert in the future. Only the massive deposits of the Veitsch type can be quarried and worked at a profit, however, and some of the larger deposits, not well located, have been unable to compete in the past.—Bureau of Mines' Minerals Investigation.

Possible Potash Production Analyzed

It is quite reasonable to expect that with a good market, at a price assured for a period of five years, a production of about 100,000 tons of potash per year may be maintained, for, as the production from the Nebraska Lakes begins to decrease the production from the California saline lakes, and also the cement plants, certain iron blast furnaces, the special types of silicate rocks, and the sugar and molasses wastes will gradually increase to take its place and maintain the total.

At the end of the five-year period it is expected that the California salines, and most plants then equipped for the recovery of potash as a by-product, at cement plants, iron blast furnaces, and from organic waste materials, will be in a position to compete with German potash and produce a minimum of 75,000 tons per year, unless the foreign potash is sold at a lower figure than is now believed to be likely. The above sources, at least, have a reasonable chance to survive and produce potash in competition with foreign potash at between \$1.25 and \$1.50 per unit, assuming that general industrial costs do not increase in that period. The indications are that at a pre-war price, however, there would be very small production, possibly 15,000 to 20,000 tons per year.

To what extent the prospects of obtaining potash from silicates, especially the special silicates, analcite, leucite, and greensand, can hope to compete commercially with foreign potash is yet to be determined, but the indications are that there

is a fair chance for the production of a certain tonnage of potash in direct competition with the German potash, at from \$1.25 to \$1.50 per unit.

There is still so much indefiniteness as to future costs, etc., that any forecasts as to the future are made with a great deal of reservation.

However, a few years of assured market for the output would allow many of these indefinite factors to be settled one way or another, and with a reasonable chance that a number of the above projects may prove successful, i.e., successful within a comparatively short period of time in producing potash at prices comparable to the cost of imported potash.—Bureau of Mines' Minerals Investigations.

Improvements in Arizona

Many companies in Arizona have employment departments which keep careful record of labor employed; besides securing new labor when necessary, these departments have generally authority to review cases of discharged employees with a view to reinstating them where an injustice has been done. Furthermore, working conditions are being improved wherever it is apparent that such can be done. Mine ventilation and the dust problem are receiving attention. Underground shovelling machines are being experimented upon at inspiration with the idea of decreasing labor costs.—Bureau of Mines' Minerals Investigations.

Gasoline Production Increased

In the first six months of 1919 there were produced in the United States 237,000,000 gallons more of gasoline than in the first six months of 1918 and approximately 98,000,000 gallons less were exported. This decrease in export is readily accounted for by the cessation of hostilities.

During the first half of 1919 we exported practically 3,000,000 more gallons of gasoline to our insular possessions than during the same period in 1918, possibly due to the releasing of tankers for domestic trade.—Bureau of Mines' Minerals Investigations.

Activity in Tintic District

In the Tintic District conditions are practically normal. The camp is intensely active due to the many new developments in the eastern part of the district. The high price of silver is a great benefit to the district.—Bureau of Mines' Minerals Investigations.

A. E. Carlton, President of the Crescent Company and the Golden Cycle M. & R. Co. of Cripple Creek, Colo., left on September 24 to attend a conference of representative business men of the United States, France, England and Belgium. Mr. Carlton is a member of the Board of Directors of the United States Chamber of Commerce and is also on the Committee of that organization whose object will be to arrange trade relations between the countries represented.

LEGAL DECISIONS

COURSE OF EMPLOYMENT—EMPLOYEE MINISTERING TO HIS WANTS

The rule is that acts of ministration by a servant to himself, such as quenching his thirst, relieving his hunger, protecting himself from excessive cold, performance of which while at work are reasonably necessary to his health and comfort, are incidents to his employment and such acts of service are within the Workmen's Compensation Acts, although they only indirectly are conducive to the purposes of the employment. The rule is applied in the case where a watchman employed by a mining company was injured while blasting stumps upon the premises in order to procure fuel for the purpose of heating or cooking. *Ocean Accident & Guaranty Corp. v. Pallaro, Colo., 180 Pacific 95, p. 96.*

CONTRIBUTORY NEGLIGENCE OF EMPLOYEE UNDER WORKMEN'S COMPENSATION ACT

Section 8 of the Colorado Workmen's Compensation Law of 1915 enumerates the conditions which must occur and exist in order to give a right to compensation and freedom from negligence on the part of an employee is not included and therefore negligence is no defense to a claim for compensation. Neither does negligence alone prevent any act ordinarily incident to the employment from being one performed out of and in the course of the employment. A peril that arises from the negligent or reckless manner in which an employee does his work may well be held to be a risk incidental to the employment. *Ocean Accident & Guaranty Corp. v. Pallaro, Colo., 180 Pacific 95, p. 97.*

PERSONS ENTITLED TO MINER'S LIEN—GENERAL MANAGER

The general manager of a mining company stands very much in the position of an owner directing and managing his own business. He is the representative of the corporation and to the laborers under him he is practically the corporation itself. Such managers do not come within the spirit of the mechanics' lien acts and he is not entitled to a lien on the mine or mining property for services rendered, as against bond holders, where, as such general manager, he aided in the issue of the bonds. *International Trust Co. v. Lowe, Colo., 180 Pacific 579, p. 580.*

IRON-MAKING BACTERIA

The United States Geological Survey, custodian of the nation's most prosaic secrets, has made an important discovery. Iron ore is manufactured by bacteria—millions of them work hard for millions of years to make even an ordinary iron mine.

Just what relation these bacteria are to the ones that produce Roquefort cheese, hay fever and beerless beer the Geological Survey does not assume to say. Those are problems that belong to Attorney General Palmer and to the Department of Agriculture. But Prof. E. C. Harder, of the Survey, testifies that he has traced the iron-making bacteria to their lair. He has found them—without union cards—"actively engaged in the deposition of compounds of iron, not only in the surface iron-bearing waters, but in the mine waters to depths of several hundred feet and has made laboratory cultures of various iron-depositing bacteria."

Far more important, however, from the standpoint of household therapeutics, is Prof. Harder's confession that he first learned of their existence through "their ability to clog the pipes of the city water supply systems with thick, hard crusts and slimy, rusty masses composed of millions of individual bacteria." What a blow

MINERS LIENS—NATURE OF WORK

The work for which a lien on a mine or mining property is given by the statute of Colorado is that which is performed in the development and conservation of the mine and the results of which become incorporated with the mine so as to constitute a part of its value. *International Trust Co. v. Lowe, Colo., 180 Pacific 579, p. 580.*

STOCKHOLDER'S LIABILITY—STOCK EXCHANGED FOR MINING PROPERTY

Where mining stock was sold for money and the purchase price was less than the par value of the stock the difference between the par value and the amount actually paid is the measure of the stockholder's liability to the creditor's. But where corporate stock is issued for mining property having no generally defined value, the rule is that where the corporation and stockholders have agreed upon a given value for the property transferred, such valuation is binding and conclusive unless it is fraudulent in purpose or effect. Where the parties place upon the property a valuation in excess of what they knew or believed to be its true value, this is a constructive fraud upon the creditors and the stock will be deemed paid only to the extent of the actual value of the mining property received in exchange for it. *Hasson v. Koeberle, Cal., 181 Pacific 387, p. 388.* See *Herron v. Shaw, 165 Cal. 668, 133 Pacific 488; Harris v. Armour, 169 Cal. 787, 147 Pacific 1166.*

NEGLECTANCE—APPLIANCES MAINTAINED BY THE OPERATOR—PROOF AND PRESUMPTION.

Where an appliance or a thing which caused an injury is shown to be under the management of a mine operator, an accident resulting in an injury is such as in the ordinary course of things does not happen if those who have the management of such appliances used proper care, affords reasonable evidence, in the absence of explanation by the mine operator, that the accident arose from a want of care. An injured employee under such circumstances need not do anything further than to show that the defect was known to the operator or that it would have been discovered upon the exercise of reasonable care to ascertain its condition. *Duran v. Yellow Aster Min. & Mill. Co., Cal. App., 181 Pacific 395, p. 396.*

that discovery will be for the predatory plumber! If bacteria cause all the trouble, the remedy certainly ought to be simple enough. All we need to do is to vaccinate the water pipes and thwart the wicked intentions of the bacteria. Doubtless when Prof. Harder has completed his study of his laboratory cultures he will be ready to offer a plumber-harassed world a vigorous antitoxin that will at least discourage the water pipe residents and induce them to confine their attentions to making iron mines. That would be a milestone on the road to the lower cost of living.

Kerosene Stocks Declining

Stocks of kerosene from June 30, 1918, to June 30, 1919, were reduced from 426,000,000 gallons to 252,000,000 gallons, or a reduction of 174,000,000 gallons. The stocks of kerosene have been on a constant decline for the last year and a half, and this in spite of the fact that, in the first six months of 1919, production of kerosene increased 188,000,000 gallons over the same period in 1918. Kerosene is used largely for illuminating purposes, and our greatest market is in the Orient and in South American countries. —Bureau of Mines' Minerals Investigations.

NATIONAL LEGISLATION

September saw little activity in Congress so far as legislation pending for the mining industry is concerned. The League of Nations, labor troubles, etc., have completely engrossed both Houses. A large number of members of both the House and Senate have been away from Washington and practically no action has been taken upon the bills heretofore reviewed in these columns.

The only committee hearing of particular interest to mining is that on the Graphite Bill, which was held before the House Ways and Means Committee on September 26 and 27. Detailed report of this meeting is found in another column of this issue.

The Smoot Leasing Bill, S. 2775, passed the Senate on September 4 and has been referred to the House Public Lands Committee, where it is expected that early action will be taken upon same.

S. 2129, introduced by Mr. Smoot, providing for the payment of certain moneys paid under the public land laws, reviewed in the July issue, passed the Senate August 2 and has been referred to the Public Lands Committee of the House.

H. R. 5215, Tariff on Pyrites, introduced by Mr. Slomp, is still before the Ways and Means Committee of the House.

H. R. 5216, Tariff on Manganese, is still in committee.

H. R. 5218, Tariff on Magnesite, introduced by Mr. Hadley, is before the House of Representatives and is scheduled for an early hearing. The Ways and Means Committee of the House recommended a duty of $\frac{1}{2}$ cent per pound on crude ore, $\frac{3}{4}$ cent per pound on calcine, $\frac{3}{4}$ cent per pound on brick, and 10 per cent ad valorem.

H. R. 6238, Tariff on Zinc, introduced by Mr. McPherson, was reported out of the House Ways and Means Committee with amendments under date of August 1. This bill passed the House September 20.

S. Res. 126, introduced by Mr. Frelinguysen and reviewed in the August issue, providing for the investigation into the causes which have brought about the increase in the market price of coal, is still before the committee.

S. J. Res. 80, introduced by Mr. Kenyon, authorizing the President to call a national labor congress in Washington, was passed by the Senate on August 1, and the House August 2.

H. R. 3184, the Fish Water Power Bill, passed the House July 31, and has been referred to the Water Power Committee of the Senate, where it still remains, no action having been taken thereon.

The following bills of importance to the mining industry have been introduced:

Annual Assessment Work

H. J. Res. 183: Introduced by Mr. Hawley and referred to the Committee on Mines and Mining. The bill provides for an amendment to the bill

to suspend the requirements for annual assessment work and is as follows:

"Resolved by the Senate and House of Representatives of America in Congress assembled,

"That the joint resolution to suspend the requirements of annual assessment work on mining claims during the year 1919, approved August 15, 1919, be, and the same is hereby, amended by striking out the first proviso in said resolution, reading as follows: 'Provided, That no such suspension shall be granted to any one claimant for more than five claims,'"

And the same be, and is hereby, further amended by adding a new section to be known as section 3:

"SEC. 3. That the provisions of said joint resolution are hereby extended to include the Territory of Alaska and to suspend for the year 1919 all laws requiring the performance of annual labor or improvements on mining claims in that Territory."

So that as amended the said joint resolution will read as follows:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the provision of Section 2324 of the Revised Statutes of the United States which requires on each mining claim located, and until a patent has been issued therefor, not less than \$100 worth of labor to be performed or improvements aggregating such amount to be made during each year, be, and the same is hereby, suspended during the calendar year 1919; Provided, That every claimant of any such mining claim in order to obtain the benefits of this resolution shall file or cause to be filed in the office where the location notice or certificate is recorded, on or before December 31, 1919, a notice of his desire to hold said mining claim under this resolution.

"SEC. 2. That this resolution shall not be construed to alter, modify, amend, or repeal the public resolution entitled 'Joint resolution to relieve the owners of mining claims who have been mustered into the military or naval service of the United States as officers or enlisted men from performing assessment work during the term of such service,' approved July 17, 1917.

"SEC. 3. That the provisions of said joint resolution are hereby extended to include the Territory of Alaska and to suspend for the year 1919 all laws requiring the performance of annual labor or improvements on mining claims in that Territory."

Labor

S. 2912, Introduced by Mr. Phelan and referred to the Committee on Appropriations. The bill appropriates \$500,000 to be spent by the Secretary of Labor for the purpose of protecting the land boundaries and coast lines in the interest of the immigration laws.

H. R. 9174, Introduced by Mr. Hudspeth

and referred to the Committee on Immigration and Naturalization. The bill appropriates \$600,000 for the relief of the Immigration Inspector of the Department of Labor and of making an appropriation for the efficient enforcement of all immigration laws. The bill is almost identical with the bill introduced in the Senate by Senator Phelan except that it appropriates \$600,000 instead of \$500,000.

Leasing

S. 2775, the Leasing bill, promoting the mining of coal, phosphate, oil, gas and sodium on the public domain, and known as the General Leasing Bill, passed the Senate on September 4, and has been referred to the House Committee on Public Lands.

This bill carried several important amendments which were finally adopted out of a total of more than fifty which were proposed on the floor of the Senate while the bill was under discussion. One of these provided that, under the Clayton Anti-trust law, oil companies may not charge different prices in various parts of the country for products of the same grade, f. o. b. shipping point. The Secretary of the Interior is given the power to lease coal lands under royalty of not less than 5 cents or more than 20 cents a ton—Alaskan coal lands being excluded. Royalties on oil lands are fixed at 12½ to 25 per cent on production and phosphate 2 per cent of net value of production, and sodium 12½ per cent.

An amendment was tentatively adopted requiring licensees at all times to furnish products to the United States and to the public at reasonable prices.

Miscellaneous

H. Res. 285, Introduced by Mr. Kelly and referred to the Committee on Interstate and Foreign Commerce. The resolution is as follows:

"Resolved, That the Secretary of Commerce be directed to furnish to the House a detailed report of the efforts made to stabilize prices in basic industries, through the Peek Committee and the results which would have followed the putting of this plan into effect, based on the prevailing prices of such basic products."

PERSONALS

Nelson Franklin, of Denver, Colorado, is spending several weeks in the East. He is not expected to return to Denver until the middle of October.

Norman Carmichael, General Manager of the Arizona Copper Co., Ltd., at Clifton, was a caller at the offices of the American Mining Congress during his stay in Washington.

George M. Taylor, of the Portland Gold Mining Co., Colorado Springs, spent a few hours in Washington en route to New York on September 10th.

George H. Crosby, Director of the American Mining Congress, Duluth, Minn., was in Wash-

ington during the month for the hearings of the Oneida Mines Co. before the War Minerals Commission. While in the city, Mr. Crosby made the offices of the Mining Congress his headquarters.

A. J. McLennan, Secretary of the Whitmarsh Mining Company, was a Washington visitor in the interest of the claims under the War Minerals Act last month.

Bulkeley Wells, President of the American Mining Congress, was in New York for ten days during the early part of September.

A. B. Conklin, Chairman of the Graphite Section of the Alabama Chapter of the American Mining Congress, has been in Washington during the month looking after the interests of the graphite producers in their bill for a protective tariff now before the Committee on Ways and Means.

Falcon Joslin, of Seattle, made a short visit to the Mining Congress offices during the month.

Carl Scholz has been elected vice-president and general manager of the Raleigh-Wyoming Coal Company, a West Virginia corporation, with headquarters in Charleston.

This company will immediately commence the development of two mines—one in the Beckley Seam on the head waters of the Guyandot River, which will be a shaft mine about 700 feet deep; the other mine will be in the Eagle Seam on the head waters of the Coal River. Both operations will be equipped with modern machinery and are expected to become large producers.

The Hyatt Roller Bearing Co. has established a branch office at 1016 Robson-Prichard Building, Huntington, W. Va., in an endeavor to be of more service to the coal operators in that district.

Mr. H. G. Nash, manager of the Huntington District, will be in charge of this office, and Mr. Nash and his assistants will apply their knowledge of mine car construction to the solution of the haulage problems of the mines in their district.

All mine officials are urged to use the services of this office freely.

WORLD'S LARGEST MAGNESITE DEPOSITS IN AUSTRIA-HUNGARY

Though the term magnesite is generally applied to the iron-bearing carbonate of magnesium, such as is found in Austria and Hungary, by some Austrian magnesite is referred to as bruennnerite. The mineral bruennnerite has become of commercial importance only in Austria. The important deposits are found in Styria, lower Austria and northern Hungary. It is of interest to know that the world's largest deposit of spathic iron ore, or iron carbonate, occurs at Eisenerz, Styria, while the world's largest deposit of spathic bruennnerite is found at Veitsch in the same province.—Bureau of Mines' Minerals Investigations.

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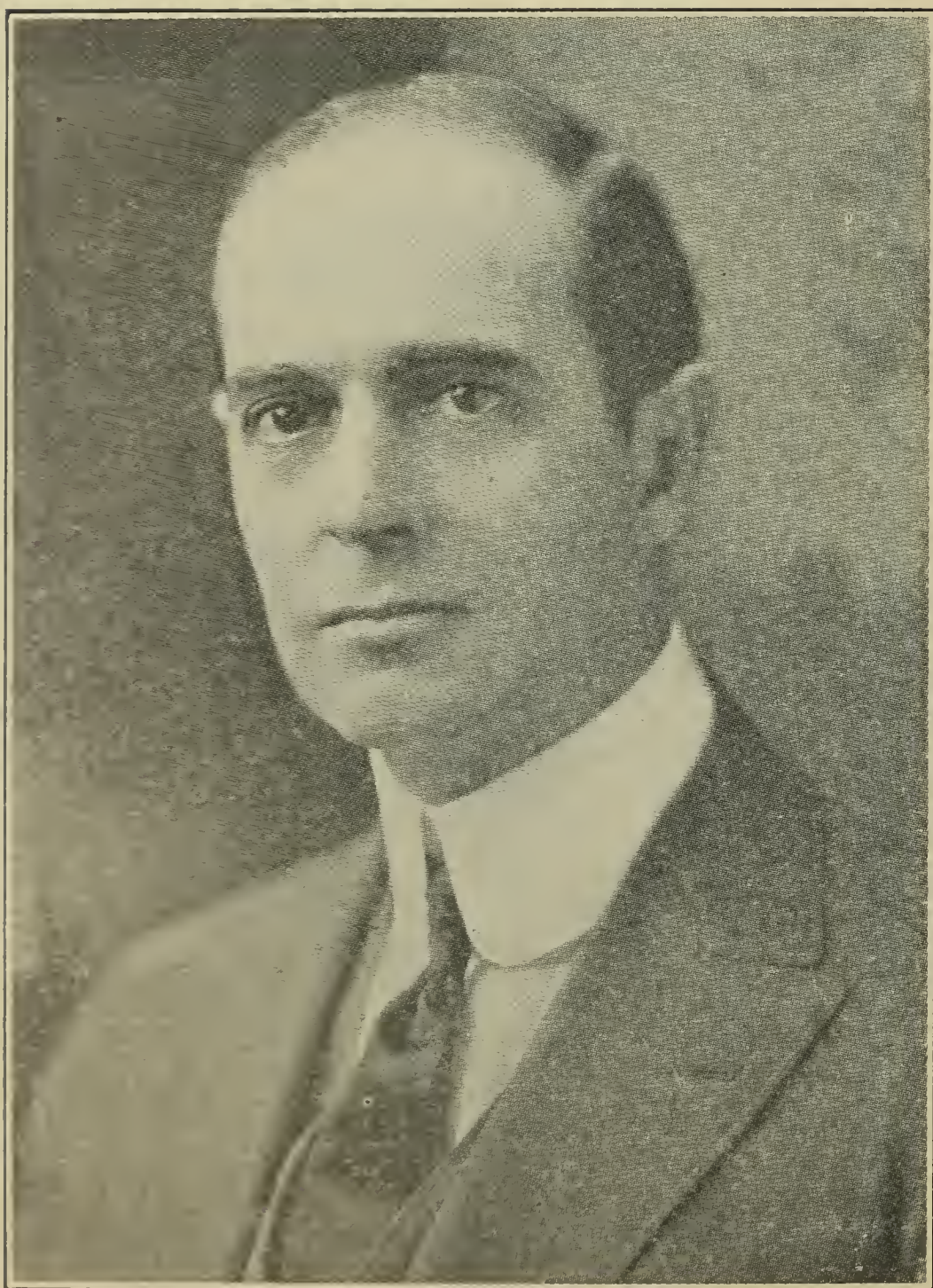
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extends its heartiest thanks to those who have made this edition possible, and for the splendid cooperation it has received from mining men, and from those concerns who manufacture mining equipment. The great spirit of cooperation never has been more completely demonstrated.

THANKS!



BULKELEY WELLS
President
The American Mining Congress

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Official Organ of the American Mining Congress

THE VERY HEART AND SOUL OF DEMOCRACY

In his appeal to the Industrial Conference to continue its effort to arrive at and determine basic principles upon which labor and capital may work in perfect cooperation, President Wilson touched upon a basic principle upon which and only upon which can the inevitable conflict between labor and capital in its ever recurrent manifestation find a settlement which will be in accordance with the provision of democracy as typified in the Government of the United States. The particular part to which reference is made is as follows:

At a time when the nations of the world are endeavoring to find a way of avoiding international war, are we to confess that there is no method to be found for carrying on industry except in the spirit and with the very method of war? Must suspicion and hatred and force rule us in civil life? Are our industrial leaders and our industrial workers to live together without faith in each other, constantly struggling for advantage over each other, doing naught but what is compelled?

My friends, this would be an intolerable outlook, a prospect unworthy of the large things done by this people in the mastering of this continent—indeed, it would be an invitation to national disaster. From such a possibility my mind turns away, for my confidence is abiding that in this land we have learned how to accept the general judgment upon matters that affect the public weal. And this is the very heart and soul of democracy.

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What does this mean? It means the rule of the majority. It means that the

majority shall frame the laws by which both majority and minority must be governed. It provides the means of punishment for those who violate these laws whether they belong to the majority or to the minority. It does not follow that there are to be no disputes; it anticipates these disputes by providing one great branch of the Government coordinate in power with the other branches for the sole purpose of settling the disputes which are certain to arise among the individual citizens or interests of this great Government. Courts are provided to hear disputes, pass upon the merits and render judgment. In recognition of the frailty of human agencies it is provided that appeals may be taken to higher courts, and step after step, under the Constitution of the United States, has been developed a system designed to accomplish and almost universally accomplishing as nearly absolute justice as it is possible to bring about. It is not for a minority or any one individual to set his judgment up against the "general judgment" of the nation. Upon this fundamental rock can be builded, and only upon it can be builded a system by which the disputes between labor and capital may find the most speedy, the most equitable and fair, and the most satisfactory determination. And this without the enormous waste of strikes and lockouts, and without the extreme bitterness of feelings which strikes and lockouts always and necessarily engender. If I quarrel with my neighbor in the public place, we are both of us likely to be arrested and thrown into jail as disturbers of the public peace. My quarrel may be just, but the law provides other methods for its deter-

mination. If my rights are infringed upon by my neighbor, the courts are open to which I may appeal for justice. If I and my business associates undertake by concerted action to unfairly enhance our profits or to do anything which will tend toward the injury of our neighbors, our act is named a conspiracy under the law, and the courts upon proper application may put an end to our illegal acts.

Someone has said that you cannot "indict a nation." The meaning carried with this statement is that, if the number of conspirators is sufficiently large, it would be impossible by ordinary forms of law to effectively punish all of those who are involved.

Logically this argument leads to compulsory arbitration. THE MINING CONGRESS JOURNAL is not yet prepared to say that arbitration should be required in labor disputes, but it is prepared most emphatically to endorse the provisions of the Colorado Industrial Commission Act which requires that, before a strike has been put into effect, some unbiased governmental agency shall be given time to investigate the conditions involved, to use its mediatory and conciliatory efforts to settle these difficulties and, if these fail, to report the facts to the public in order that the public may be advised as to the exact condition and be able to arrive at a fair conclusion as to which party is in the wrong. Public sentiment has usually been the determining factor in the success or failure of strikes. Public sympathy could never be secured for a strike of all the coal miners of the country at a time when wages were higher than ever in history, working conditions better than ever before, and this is particularly true at a time when the people of the nation are laboring under the enormous burden of high prices brought about by waste of war, by soldiering and by strikes, through which the supply of the necessities of life has become so diminished as to make high prices inevitable. And now, to intensify this condition, strikes are in progress everywhere. The great outstanding characteristic of the American people is fairness, if there is a bias it is in favor of him who is being

imposed upon, of him who is failing to secure his proper share of that to which he is entitled, and no labor union which asks for that to which it is entitled need fear other than justice by any proper system of arbitration. *"And this is the very heart and soul of democracy" . . . "That in this land we have learned how to accept the general judgment upon matters affecting the public weal."*

IS THE WAGE SYSTEM A FAILURE?

Fallacies of thought based upon morbid sympathies or perhaps upon thoughtlessness are being so continually presented to the public that denial seems to be called for in order to prevent these fallacies from being accepted as fundamental truths. Unintentionally in most instances, these statements undertake to show that there is a necessity for an entire revision of the industrial laws upon which the development of this great government has been founded. It seems to be accepted as an acknowledged fact that the wage system is fundamentally wrong.

President Wilson in his address to Congress of May 20, 1919, referring to labor legislation, said:

We cannot go any further in our present direction. We have already gone too far. We cannot live our right life as a nation or achieve our proper success as an industrial community if capital and labor are to continue to be antagonistic instead of being partners; if they are to continue to distrust one another and contrive how they can get the better of one another. Or, what perhaps amounts to the same thing, calculate by what form and degree of coercion they can manage to extort on the one hand work enough to make enterprise profitable, on the other justice and fair treatment enough to make life tolerable. That bad road has turned out a blind alley. It is no thoroughfare to real prosperity. We must find another, leading in another direction and a very different destination.

In a recent address to the students and alumni of Dartmouth College Justice Stafford, of the Supreme Court of the District of Columbia, used the following language:

We now stand face to face with a new riddle of the Sphinx. A question it propounds

is one that we must answer if free government is to survive. That question is: How are the masses of men and women who labor with their hands to secure out of the product of their toil what they will feel to be and what will be, in fact, a fair return? Until we can answer that question we shall have no peace; and if we fail to answer it, we shall have a revolution.

This country demonstrates that that question has already been answered. If Judge Stafford means to say that we must satisfy the demands of those representatives of labor unions whose jobs depend upon continued agitation, then it may well be set down at once that condition never can be attained.

The wage system is the crystallization of the experience of the ages as the best means by which employment may be found for those unable to make employment for themselves. It is a system absolutely essential to those big operations through which cheap production can be assured by which those things which were considered luxuries but a few short years ago may be made available to all the people.

The great industrial leaders of the present day were mostly poor boys but a few years ago. It was not a matter of chance that these were able to lift themselves from the surroundings in which their life's work was begun. This nation has been made great because of the incentives offered to individual effort. It is true that all of the associates of these leaders of industry could not have attained the same station as the few who did rise, but it is true that the opportunity was open to all. Those who saved, who studied, who worked were able to rise; those who wasted their earnings with no thought of tomorrow, who made no effort to rise and who lack those qualifications which make for individual business success, remained in the wage-earning class. These, perhaps, may be happier than those who have risen and taken upon themselves the responsibility of leadership. The wage system is the best plan yet devised by which the worker shall be insured a regular income so long as the operation of a business is possible—whether that business be highly profitable or whether it be tem-

porarily carried on at a loss to the operator. There may be slight advances of wages during the good times, or a cutting of wages during a time when the market price is low and the demand small for the articles of production. But a steadily living is insured for the worker until the business practically goes into bankruptcy. The accumulations of profits made by the operator during good times are made to cover the losses during unprofitable times. All this talk of a new deal, all this talk which in effect means an abolition of the wage system, all this talk about a partnership between labor and business enterprise, whether so intended or not, but encourages unrest and brings joy into the hearts of the I. W. W.'s and the syndicalists. If this condition could be created, it would do away with all incentives to individual advancement, place all upon a level by lowering the highest to the lowest, and move civilization a hundred years backward. The wage system is not a failure.

THE MINERAL LAND LEASING LAW

The power of public sentiment, whether misguided or otherwise, is peculiarly illustrated by the course of legislation relating to the federal control of the public lands of the west. Under a liberal policy by which the title to western lands was easily obtained by settlers and prospectors, the west made a most remarkable development. A territory, so forbidding that it was regarded and named "the Great American Desert," was in part turned into the most productive section of the United States in all of those things which go to make up the highest industrial development. The largest incentives were given to the individual to develop western resources, and these developments were at times the most essential factors in the maintenance of our government. Without the development of gold and silver, particularly in California, Nevada and Colorado, the credit of the nation during the Civil War could not have been maintained and the hardy pioneers, who took immense chances but

whose risky enterprise was crowned with great success, made possible the maintenance of the credit of the nation.

Had the development of gold production in California been under a leasing system, its \$50,000,000 annual production at the time of the country's greatest need would not have been made. It is true that this liberal public lands system was abused in some instances, but the great good accomplished more than offset the bad. But a new theory was developed—the first conservation congress was held at the White House in May, 1908. People who had no conception of western conditions and impregnated with socialistic ideas, decided that it was unwise that the Government should part with its fuel and power resources. This was followed by a presidential order withdrawing from public entry the coal and oil lands and water-power sites of the west. It was the theory of this propaganda that the sources of power, being a fundamental necessity to industry, should not be allowed to become the subject of private ownership. This propaganda was based upon the theory that monopolies had control of the power situation throughout the east, to the great disadvantage of the people, and that in the west this condition should not be repeated. During all of the years since 1908, the development of the west has been prevented, awaiting the enactment of a leasing bill.

The American Mining Congress opposed the adoption of this principle upon the ground that the state governments would not be able to find proper support, with more than half of their most valuable resources exempt from state taxation; that this system would set up a different form of taxation as applied to the west than that applied to the east; that it further centralized power in the Federal Government and forced the Government to be directly interested in business affairs in competition with its own citizens; and that it would prevent development in the west in that there is no proper reward to the individual to cover the risk which the development of a new country always necessitates, and that the wrongs aimed at could and would

be prevented by state control and taxation. After many years of contention, western people came to the conclusion that it was better to allow the enactment of a law of this kind than to continue a contest against the overwhelming odds of that public sentiment which was known as the "Conservation Policy." THE MINING CONGRESS JOURNAL still protests against this principle, still believes that it will not permit that free development of western resources to the nation's advantage, and yet is glad the matter is settled. It believes that a poor plan well carried out is better than no plan at all.

INDUSTRIAL EFFICIENCY AND THE SHERMAN LAW

Ambassador Gerard, in a recent address before the New York Board of Trade, said, "If the Sherman Anti-Trust Law remains on our statute books, we shall not be able to compete in foreign markets after the war or to cope with the new German economic system."

The people of this country should awaken to the fact that big business and combination in restraint of trade are radically different; that the former is a necessary part of our present-day industrial life, and that the latter cannot exist any length of time unless protected, either by the control of the whole supply of raw materials or by special advantages in transportation.

It is true that an efficient and comprehensive selling agency may for a time control the market, but only so long as such agency by virtue of its efficiency is able to market its goods more cheaply. To the extent that any agency, in a field permitting competition, can by virtue of its magnitude so cheapen the cost of production, distribution and exchange as to permanently bring to the consumer a cheaper and a better service, that agency is a public benefit and should be encouraged rather than restricted.

At the point where big business becomes more expensive to operate than the same amount of business in the hands of many smaller agencies, it should and will fall before that competi-

tion which individual initiative is always ready to develop. The Sherman law should stand guard against conditions which stifle the exercise of individual initiative and permit the law of supply and demand to freely operate. It should not, as suggested by Mr. Gerard and others, be repealed, but it should be modified so as to permit, under government regulation, such combinations as will enable business to be conducted with greater efficiency where such combinations are not inimical to the public good. Only by such cooperation can small business units hope to compete successfully with the large business organizations.

The Natural Resources Committee of the American Mining Congress is giving careful consideration to this problem.

A COAL EXPORT ASSOCIATION

The New York Times recently called attention to the failure of exporters to utilize the authority recently granted by Congress in the Webb-Pomerene bill by which combination in foreign trade were made immune from the restrictions of the Sherman Anti-Trust Law, and urges that "every industry which sells in foreign markets should have a committee planning for the cooperation which the Webb law allows."

The coal industry, with a productive capacity of at least 50 per cent in excess of possible consumption demand, has special need for such organization. The peculiar character of a coal mine, which must be kept in operation to prevent rapid depreciation and must be operated at full capacity to keep down its overhead charges, makes it especially important that a foreign market shall be found for its surplus production.

Several plans were proposed during the early summer, one of which was quite fully developed under the direction of Thomas F. Farrell as the head of a committee appointed by the National Coal Association. This association decided that it should not be sponsor for this movement, due to the fact that a large part of its membership was not directly interested in the export trade. When other plans seemed about to fail,

the American Mining Congress, believing that it might serve as a common meeting ground for the various interests, appointed a committee consisting of Dr. Henry M. Payne, of the American Mining Congress; George M. Dexter, of the American Wholesale Coal Association; Charles S. Allen, of the Wholesale Coal Trade; John Callahan, of the National Coal Association, and Allen Walker, of the Guaranty Trust Company of New York.

This committee has held several meetings and has developed a plan which will be presented to the St. Louis convention and which in the meantime is being further considered by those interested in the export trade.

THE GOLD SITUATION

THE MINING CONGRESS JOURNAL has frequently stated that "gold will come back." The people of this nation do not appreciate the present burden upon the gold industry, nor the necessary and certain effect which will result unless some method is devised by which gold production may be kept to at least its normal status. The present year is the first for many, many years in which the use of gold for manufacturing purposes will exceed the total production of new gold. Heretofore a considerable percentage of the annual gold production has been available for coinage purposes. Hitherto the volume of currency based upon gold was much less than that which the business of the country absolutely requires during a period of high price levels.

The critical importance of this question to the nation is such that the American Mining Congress felt it necessary that special investigation should be made, and as a result created a Division of Gold and Precious Metals, which has been making exhaustive studies in order to find a remedy for the gold situation, which would not entail a financial and industrial panic and through which price levels may be brought down to a level corresponding with the country's gold reserves. To repeat from a former editorial, "THE MINING CONGRESS JOURNAL" hopes that this problem may find a solu-

tion through intelligent foresight rather than through the crushing logic of an industrial panic."

Something must happen. A remedy for the situation is suggested in an article by our economist, Harold N. Lawrie, which appears on another page of this issue. A thoughtful study of the charts which accompany his article will demonstrate the necessity for some remedy. Mr. Lawrie's suggestion may or may not furnish a solution of the question, but it is hoped that the National Gold Conference to be held at St. Louis, under the auspices of the American Mining Congress, during the week of November 17, will agree upon some practical suggestion and develop the plans by which it may be made effective.

SECRETARY OF LABOR WILSON

The address of William B. Wilson, Secretary of Labor, at the opening of the Industrial Conference called by the President, is a most statesmanlike utterance from one who is in position to wield large influence in behalf of his country. All will recognize that the greatest question before the American people is that involved in the proper relation between labor and capital. Mr. Wilson, while being a labor-union man, recognizes the basic principles involved, and his address is such as to commend him to everyone who is ready to treat the labor question from a broad, statesmanlike platform. The failure of the Industrial Conference is a matter of supreme regret because its success might have prevented the destruction of the good things which have been obtained by labor during the recent years, some of which will necessarily go down with the many bad things which it has espoused.

The failure of the Industrial Conference has precipitated the present industrial conflict which in the end will attain the same results, but at a cost immensely greater, not only to those involved but to the people of the nation as a whole. The American people can be trusted to act wisely whenever all of the facts are before them. They may be expected to be bent by their sympathies to favor those who most need help up to the point

where their government is in danger, but when that time comes sympathy will be relegated to the background, and the iron hand of governmental necessity will strike fearlessly and, if need be, relentlessly. If the views of Secretary of Labor Wilson had been followed, much and perhaps all of the present turmoil would have been avoided.

THE SILVER SHORTAGE IN FRANCE

A Paris dispatch calls attention to the fact that because of a lack of silver and small coins in circulation, that postage stamps are being used with which to make change and to pay small bills. Three reasons are given for this shortage of supply. First, that the metal in silver coins is worth more than the face value for use in the arts and industries and that coin is being melted for those purposes. The second explanation is that silver is at a premium in a number of the countries, and a third explanation is that the peasants are accumulating silver stock as they did gold in the days before the war.

Another reason, perhaps of greater importance, is that the world's financial operations today are conducted upon a scale of prices practically 100 per cent higher than before the war. This means that it requires at least twice as much money with which to do business. Money based upon metallic reserve, whether of silver or of gold, must bear a proper relation to the amount of metallic reserve available. The world's gold production is rapidly falling off; the world's silver production is making no increase comparable to the increased money requirements. There seems to be no probability that the demand for silver will abate, but rather that it will increase as its needs for monetary uses have become more apparent.

MR GOMPERS THREATENS THE NATION'S INDUSTRIES

Among the martyrs to radicalism in labor affairs the future will furnish no more striking illustration than that of Mr. Gompers leading his forces from the

Industrial Conference after President Wilson's personal appeal that the conference should push its work "to a happy conclusion." In leaving the convention Mr. Gompers said to the employers' delegation: "The words you have spoken here mean nothing. You have defeated the labor group in its declaration, but we will meet you again in conference, and when we do meet you there you will be glad to talk collective bargaining." What is the meaning of this statement? As the writer understands it it was a threat that, no matter at what cost, the employers of labor will be forced to their knees. When we have sufficiently disciplined you and those American citizens who have the temerity to continue at work to assert their own individual right to earn a living in disregard of the orders of organized labor, "you will be glad to talk collective bargaining." Whether Mr. Gompers pursues this course because he believes it right, or whether he pursues it because he believes that radical elements will get control of the organization, is a question which is likely to remain unanswered. If this action is taken to prevent the radicals from getting control, he is paying a price greatly in excess of the value to him of the results. If this action was taken by Mr. Gompers as a result of his own volition and in obedience to his best judgment, then Mr. Gompers is not entitled to be considered as a conservative leader of labor.

Mr. Gompers could not consistently do else than withdraw from this Industrial Conference. His organization had been encouraging the great steel strike and only the night before his withdrawal had again decided to throw in behalf of the steel strike all of the influence of the American Federation of Labor. This means that sympathetic strikes will be called and that every avenue of approach will be cut off in order that the steel industry may be paralyzed no matter what course is necessary to accomplish it. It means a declaration of war the path from which at this time leads directly to the overthrow of our Government. Mr. Gompers, while opposing the steel strike, was consistently a member of the Industrial Conference. His decision to give active support to the strike

made his further attendance highly inconsistent, even though his withdrawal was in defiance of the personal appeal of President Wilson.

THE COAL MINERS' DEMAND

Coal is an essential to modern-day existence. To shut off the supply of coal would paralyze the railroads, close the factories, prevent the delivery of food to the great industrial centers, and bring thousands and perhaps millions of people to actual starvation, and, in a word, paralyze the industries of the nation. The power to inflict this suffering upon the people of this country is a power which cannot be safely lodged with any minority. The people of this country will not approve the demand of the United Mine Workers of America for a six-hour day and five-day week, and a 60 per cent increase in an already high war-rate of wages. The granting of these demands would add unbearable burdens to people already struggling with serious conditions. These demands cannot and will not be granted. The American people cannot and will not tolerate the carrying out of this threat; organized labor's power will be broken, and as a result we shall have the open shop, collective bargaining and the application of the laws against conspiracy and trusts to apply equally and fairly to all of the people.

THE UNION VS. OUR UNION

The United States of America has grown to be the greatest nation in the world, because of the practical democracy, established here for the first time, which provided just enough of control to protect the rights of others and otherwise granting the fullest liberty to the individual. It was provided that the wish of the majority as expressed by its chosen representatives should be the controlling factor. Just so long as these principles are made to prevail will the American republic live. Whenever these principles fail, the world's great effort for democracy will have finally demonstrated that government of the people, by the people and, for the people cannot be maintained.

The present dangerous crisis was brought upon the country by the belief of organized labor that its grip upon the nation's throat was so strong that it could not be loosened and that a minority might, if sufficiently aggressive, control the majority. The passage of the Clayton bill, which violated the fundamental principles of our government in that it favored a certain class as against other classes; the enactment of the Adamson law, under threat that unless Congress should meet its demands that the nation's industries would be paralyzed—led organized labor to believe itself invincible, and it has grown drunk with power which only exists by the sufferance of the American people. A long-suffering people are awake to the situation and the leeches of labor will be forced to surrender their strangle hold upon its throat. A test of strength between the minority represented by organized labor and the American people will demonstrate the weakness of organized labor. Organized labor, because of its unfair demands, has started a war in which it will lose much that it has gained in the past; it will lose the closed-shop principle and the open shop will hereafter be the rule in industrial life; it will lose the principle of collective extortion, and in its place will remain the real principle of collective bargaining; it will lose the special privileges granted by the Clayton law, and all combinations, whether of labor or capital, which have to do with the control of production or of prices, will be brought under the prohibitions of the Sherman law. Business will be again free and open competition will reduce the cost of living to proper levels—the consumer will have a chance. The unjust demands of organized labor are doomed when it measures swords with the American people. In the choice between our Union and the union, the Constitutional Union is bound to prevail.

FUTURE OF THE AMERICAN MINING CONGRESS

The growth of the American Mining Congress during the current year has

been exceedingly gratifying to all of those who have been anxious for the expansion of its work. Most of our members understand that up to the middle of the year 1918 the work of the Washington office was carried on entirely by the secretary with the aid of a clerical force. Since that time four capable assistants have been added to the staff, making it possible to give more direct attention to matters which heretofore could not have proper attention. It is planned to still further add to the organization until it shall have one capable man at the head of a division devoted to each of the various branches of the mining industry, thus having what will in effect be several organizations, each with its division chief, all cooperating as one organization.

As has been before announced, the plan is to support this work by contributions from the various branches of the industry, on a basis of 10 cents for each thousand dollars of production, with a minimum of \$100 by those who desire to have the benefit of the investigations and reports of its Bureau of Mining Economics. This bureau is undertaking to correlate the information gathered by the various governmental agencies, and to gather such additional information as will tie together and apply this information in a practical way to the basic principles of each branch of production. This bureau will be available to Members of Congress and others in position to use such information as a means through which to obtain absolutely reliable and complete information concerning every branch of the industry, and to see to it that governmental investigations shall carry the practical features which will make them of the greatest service, not only to legislators in framing laws to meet practical conditions but to the operators in planning their operations so as to get the best possible results.

The growth during the year has been very much more substantial than was anticipated at the last annual meeting and gives assurance that within the coming year the organization may be so completed as to make it thoroughly representative of every branch of the mining industry. But few of those who have

been asked to contribute have refused their support, it being plain that the equitable basis of support which was agreed upon is fair to every branch of the industry and that none can afford to refuse to do his part in maintaining the more effective organization.

ENEMIES OF OUR GOVERNMENT

No possible external war could bring this country into graver danger than that which faces it now in its contest with syndicalism and anarchy. The foes of liberty are not only the Bill Haywoods and the William Z. Fosters and the Emma Goldmans, but all of those who perhaps, without appreciating the results which must follow, question the principles of the Constitution of the United States; who are willing to ignore these principles in an effort to attain some imaginary advantage for those who have failed because of their own unwillingness to pay the price for industrial leadership; and who believe they would be happier with responsibilities which they have always avoided. Every successful army is composed of many other elements than the fighters in the ranks. It must have its generals who do not come near the firing line but who direct its operations from a hidden point of vantage. It must have that business direction which supplies to each fighting unit the materials which are necessary to make effective its efforts. It must have, perhaps in far-distant lands, the manufacturing plants which create the munitions of war without which the soldier would be helpless. It must have its ambulance corps to care for those who are wounded in the fray. Most of these are not on the firing line, many of them do not appreciate the importance of the work which has been assigned them, but the effort of all of these various parts must synchronize in order to bring success to that cause which is typified by the flag at the front.

The red flag of anarchy and revolution in this country leads the forces which hope in time to tear down the Stars and Stripes. It has various grades

of followers, some of whom condemn most bitterly the cause of anarchy and revolution. The most dangerous of these followers are those in the Ambulance Corps, those who are influenced by a commendable but misguided sympathy, but whose influence is necessary for the advancement of the cause of bolshevism; those who are known as parlor Socialists and parlor bolshevists, who grimly discuss "collective bargaining" and "the right of labor to be represented by representatives of its own choosing." Most, if not all, of these green supporters of the red flag discuss these matters without knowledge of the actual, practical conditions which prevail, like the conscientious objector in time of war whose intentions may be good but who actually does all that he personally is able to do to defeat the cause of his country.

It is time for a division of the sheep and the goats. It is time that those who unalterably and without question support the Constitution of the United States shall be lined up together; and that those who are not willing to stand squarely upon that platform shall be counted as enemies of our Government.

It is time for a better definition of the word "Americanism."

ROCKING THE BOAT

Labor is frank. It openly and unreservedly states what recognition it expects from the employers of labor. Labor, as typified by such leaders as Mr. Gompers and his associates, flatly refuses to retrace one step from the vantage point gained through the world war between nations.

The employers of labor and the financiers of the United States are trying to meet the change in the economic conditions of the country, to readjust business to meet the radical changes, and at the same time to consider the requirements of employes under the new conditions of living.

Labor has but one viewpoint. It is single-minded. It is a unit. It is insistent. To it there is but one right. It does not concern itself with the financial

problems of barter and sale through which profits of a business must develop so that the wage can be met. It considers alone and exclusively its investment of brain, brawn and training. Its vision is foreshortened. It does not visualize the factory buildings, the lathes, the ponderous machines and endless other necessities for its work. It does not visualize the years of hard work and the fortunes spent in establishing the factory which pays the wage. It does not visualize the vast and often delicate business machinery which is responsible for the success or failure of the man who signs the pay check. It does not sense the days, nights, and sometimes months and years of business grind, of mortal, commercial combat and the quality of successful generalship necessary to the maintenance and growth of an industry. It does not sympathize with its employer in his endless and ever-growing battle against the odds which every industrial leader must face. It knows nothing of the intricate problems that must be solved, often at the expense of the life blood of the men who are in the industrial trenches. It only visualizes the tailor-cut clothing, the automobile, the daily habits of the employer, and senses that he wears better clothes to and from work than the laborer is called upon to do. It visualizes the life of the employer as one of comparative luxury in a well-furnished office and a well-favored home.

In other words, the whole problem as between capital and labor is, in the eyes of the latter, a one-sided question, the former having nothing to do but to accumulate money in some magic way and pay out as little of it as possible to the men who produce the wealth which buys the tailor-made clothes, the automobiles and the fine homes.

The world is trying to readjust itself after it has been at war. War summoned the laborers into the battlefields and trenches. War shortened the supplies of food and clothing. War restricted the manufacture of everything which had before flowed unceasingly through the arteries of commerce. War left desolation, broken men and women,

overburdened nations, industrial uncertainty and financial oppression in its wake.

The world finds itself somewhat in the position of passengers in a rowboat lost in a turbulent sea.

Why rock the boat?

The crew sitting quietly in the boat, careful manipulation of the oars and a little patience may deliver all passengers safely into a peaceful sea.

What would *you* do in such a case? Would you rock the boat, or would you sit still?

Both labor and capital are in the same boat. Common sense should dictate the policy of the passengers.

Mr. Gompers and others are recognized as great labor leaders. They are. But they are not performing their whole duty to labor. They are rocking the boat; in fact, they are guilty of gross misrepresentation of the industrial facts through failing to present in a fair and impartial manner the problems of the industries upon which labor must depend for its life.

Mr. Gompers and his associates declaim loudly in behalf of justice for the wage-earner. From their every official and private utterance and publication it seems that there is but one question to be solved. That is: How few hours in the week shall labor be compelled to serve its employer and how much money can be forced out of the payroll for the minimum service?

The United States Government is in equal partnership with the American Federation of Labor and other labor unions in introducing the basic conditions of the revolutionary conditions facing industry today, by its methods of handling labor through an arbitrary and autocratic wartime organization, which it even now desires to perpetuate at the expense of the people. It gave the wage-earner a wrong viewpoint in life. We have yet to read or hear of any protest from the labor leaders against the large class of wage-earners who took advantage of the arbitrarily created shortage of labor to force the maximum wage and limited service theory down the throats

of thousands of helpless employers of labor.

Labor will not agree with the writer that the labor leaders have failed to do their duty in the great crises. But an analysis of the situation proves the case to an unbiased mind.

The United States is in better condition to establish and permanently maintain industrial supremacy than it has been at any time before. But that industrial supremacy can be based only upon industrial conditions which will allow the employer to produce at a profit. The wage-earner is entitled to only the highest reasonable maximum of remuneration which the business can pay, and working hours must be fixed upon the basis of necessary production in the industry.

The writer believes that it is time that the labor leaders of this country should have other qualifications than a mere ability to organize men into a conspiracy of force to take possession of the industries of the nation, whether it be by means of unreasonable union or by loot and common seizure. Real leaders of men try to view dispassionately every phase of a problem. The leaders in the great industrial developments of the nation must continue to visualize the men who wear the jeans and whose hands are smeared with the soil of labor, not alone in the mine or mill or factory, but in their homes, their pleasures, and the conditions which surround them and make for content or discontent.

But it is time now to sit quietly in the boat, to steer straight and to pull together.

Rock Phosphate Price

Following a conference held with the producers of rock phosphate and acid phosphate at Washington, D. C., on October 6, the Department of Agriculture announced that after due consideration it has reached the conclusion that, in the circumstances, it would not be warranted at the present time in naming a fair profit for phosphate rock or bulk acid phosphate. The department, however, will continue fully to exercise its own powers under the licensing system against profiteering as well as in conjunction with the Department of Justice.

THE GOAL

By GEORGE OTIS SMITH

Our fellow-countrymen never more keenly realized their dependence upon the mineral raw materials. Shut down our coal mines and the country becomes not only cold but idle and hungry; exhaust our oil wells and our automotive transportation system would become scrap machinery; let our iron furnaces go out of blast and manufacturing industries the length and breadth of our country would die. The industrial body of today can do the world's work only as fed with an un-failing supply of fuels and metals and all the other mineral products.

To promote the mining industry is one of the functions of the Department of the Interior, and the United States Geological Survey tries to do its share in helping the mines deliver what our country needs. Geology has become a recognized servant of industry, and the duty of the geologist in the public service is to point out where the mineral resources are, to measure the extent of the available reserves, and to assist in the efficient utilization of what nature has given.

Possession of mineral wealth is of course only the starting point; use is the next step, and best use is the step in the right direction. The goal of wisely directed industry is the prosperous community of happy homes. We need no higher aim of endeavor nor any more elaborate policy for national government or individual business.

Some Manganese Mining Continuing

Holders of stocks of manganese ore produced during the war have not been able to find a market that would warrant further handling of the ore. However, a number of properties have been developed since the war and have operated on contract with good results, which is particularly the case in Virginia.

Gold Exports

Over \$100,000,000 worth of gold has been shipped to the far east since the embargo in the exportation of gold was lifted on June 1. Considerable gold has also found its way to South America to strengthen the exchange rate between the United States and countries on that continent.

THE NATIONAL CONFERENCE

Widespread Interest Developing in Plans for Combined Meeting of Mining Men and Employers this Month

For the first time in its history the Mining Congress is calling together all mining operators, the representatives of all employing industries and representatives of labor—organized and unorganized—to consider the



GOVERNOR FREDERICK D. GARDNER

Who has been especially helpful in his cooperation with the convention

most vitally important problems in America, the readjustment of post-war misunderstandings and the threatened industrial strife.

The selection of St. Louis as the convention city appears, from the responses now in hand, to have been most fortunate, both geographically and as an industrial center.

Official calls, announcing the scope of the twenty-second annual convention of the Congress and containing official invitations from Governor Frederick D. Gardner of Missouri, Mayor Henry F. Kiel of St. Louis, and the combined commercial bodies of the states, were sent to more than ten thousand mining men, half as many leading in other lines of industry, the governors of all states, the mayors of industrial and mining cities, the commercial and manufacturing bodies and to county officials in mining districts.

The call for the national gold conference

was sent to all gold producers, to bankers in the financial and mining centers, and to the administration officials interested.

A national conference of war minerals producers, to discuss the distress of the industries involved, a program for government cooperation, the establishment and protection of permanent American and foreign markets, was called in connection with the St. Louis convention, and all interested parties or corporations whose address could be secured have been invited to participate.

Dr. A. L. McRae, director of the Missouri School of Mines, Dr. Victor C. Alderson, president of the Colorado School of Mines, and Dr. H. H. Steck, professor of mines in the Illinois University, have issued a national call for a conference of schools of mines, mining and metallurgy.

A general meeting of the St. Louis Section of the American Institute of Mining Engineers is being arranged for.

All coal operators in the country are being invited by a committee of coal producers to attend the convention, and many of the coal organizations allied with the American Mining Congress have cooperated in urging



HON. HENRY W. KIEL
Mayor of St. Louis

attendance. Coal companies within a radius of 500 miles are being urged to send their pit committees and key employees to attend educational, safety and mine-rescue conferences arranged during the week by the Bureau of Mines officials.

And back of all this is the basic plan for a great national conference of employers who realize that industry must no longer sit idly by and watch the destruction of America by

sas, Carey of Wyoming and Gardner of Missouri. Other state executives have been invited by Governor Gardner and may attend.

Several Senators have been invited, and those already announced as accepting are Senators Poindexter of Washington, Cummins of Iowa, Thomas of Colorado, Smoot of Utah, and Henderson of Nevada. Secretary Lane will probably represent the President's Cabinet in opening the Congress.

Director Manning of the U. S. Bureau of Mines, Director Smith of the U. S. Geological Survey and a dozen members of Director Manning's staff have been scheduled upon the general and conference programs.

Many of America's leading thinkers and captains of industry and finance—a score or more, to be exact—are preparing to address the sessions, discussing many phases of mining, transportation, labor problems, organization of employees and employers, the English labor situation, the steel strike, the attempted nationalization of industry and, finally, a business program for America.

Several of the highly respected leaders of organized labor have been invited to state the views of labor, and advocates of industrial democracy and systems of cooperation will tell of the established and successful experiments along these lines.

The Gold Conference will be in charge of Dr. H. N. Lawrie, chief of the Division of Rare and Precious Metals.

The War Minerals and Tariff Conferences



W. K. KAVANAUGH

Who is the active Vice Chairman of the General Committee, and Chairman of the Exposition Committee

the rapidly rising tide of anarchy, fostered by hundreds of malcontents who are posing as "labor leaders" and apostles of "a new order."

The Program

The Congress will convene Monday afternoon and will continue until its work is concluded, probably Friday noon. There will be general sessions, conferences of employers, conferences of gold producers with bankers, conferences of war minerals producers, school conferences, educational conferences for employees, coal conferences and meetings of engineers.

Little time will be devoted to the usual entertainments of conventions, as the hours are all too short for consideration of subjects vital to the nation.

The Congress will proceed with its work, regardless of any existing conditions or previous activities of the national lawmaking bodies.

Among the speakers scheduled are Governors Lowden of Illinois, Brough of Arkan-



W. L. SCHMICK

Chairman, Coal Operators Committee



B. F. BUSH

Vice-Chairman Finance Committee

will be in charge of Herbert Wilson Smith, chief of the Tariff Division.

The Safety and Welfare Work will be directed by Morton F. Leopold, safety engineer of the U. S. Bureau of Mines.

The Exposition

In connection with the convention there will be a valuable educational exposition. Although there was little time for states to prepare and ship exhibits, Arizona, California, Illinois, Oklahoma, Kansas, Missouri, Washington, Idaho and probably Utah will be represented, and more than 100 manufacturers of mining machinery, safety devices, labor-saving appliances and mine transportation are arranging to exhibit.

Headquarters for the combined conventions were opened two months ago in the Planters Hotel, and all delegates will be registered there. All advance correspondence should be addressed to John T. Burns, assistant secretary at the Planters Hotel.

The Gold Conference will meet in the Statler Hotel.

The War Minerals Conference will use the ballroom of the Planters Hotel.

The general sessions will be held in the famous dining-room of the old Southern Hotel, which is being used for the exposition.

Educational Conference and public demonstrations of mine rescue work by nationally

known teams will be given in the Southern Hotel Convention Hall under direction of the U. S. Bureau of Mines.

One of the notable features of the exposition is furnished by the Interior and War Departments, exhibits having been prepared by the Bureau of Mines, the Geological Survey, the U. S. Land Office, the Reclamation Service, the Alaskan Chamber of Commerce of Seattle, the Department of Chemical Warfare, the Signal Service and the Indian department.

An ambitious program, fully backed and made possible by the St. Louis Committee of Arrangements composed of leading coal, metal and oil men, manufacturers and merchants as follows:

General Committee

Hon. Henry W. Klie, Mayor, honorary chairman; Thomas T. Brewster, chairman.

Finance Committee

Thomas T. Brewster, chairman; W. K. Kavanaugh, active vice-chairman; B. F. Bush, vice-chairman; W. J. Jenkins, O. L. Garrison, C. B. Fox, Jr., Louis F. Lumaghi, T. M. Jenkins, F. V. Desloge, Elias S. Gatch, W. L. Schmick, E. F. Goltra, J. A. Caselton, Sam. J. Jenkins, Edmond C. Donk, A. J. Davis.

Exposition Committee

W. K. Kavanaugh, chairman; Robert E. Lee, active vice-chairman; W. F. Groom, vice-



W. F. GROOM

Vice-Chairman Exposition Committee



E. LANSING RAY

Chairman of the Press Committee. Mr. Ray is President of the St. Louis Globe Democrat.



ROBERT E. LEE

The Active Vice-Chairman of the Exposition Committee.

chairman; B. F. Bush, vice-chairman; S. T. Jenkins, G. E. Marble, James N. McKelvey.

Committee on Arrangements

R. D. Corlett, chairman; Guilford Duncan, R. F. McNally, W. L. Niekamp, J. D. Bascom, B. B. Culver, Carl F. G. Meyer, Isaac A. Hedges, W. O. Shock, Walter Henning, W. F. Dinsmore, E. C. Carter, A. S. Ruthman, Wm. A. Hirsch, J. A. Rebers, Joseph A. Goettler, E. J. Troy, Charles Gilbert, P. C. Simmons, John C. Colwell, Jr., Edmond C. Donk, Louis F. Lumaghi, Harry Beddoe, W. J. Jenkins, T. M. Jenkins, Buck Hawkins, E. J. Krause, John Henderson, Frank A. Ade, James A. Hooke, E. R. Kinsey, Wm. F. Nedler, Bert Zahner, C. P. Lohr, Arthur King, W. H. Cocke, Carson W. Smith, J. A. Houghton.

Press Committee

E. Lansing Ray, chairman; M. P. Linn, George S. Johns, Elzey Roberts, Homer Bassford.

If the business men of America respond with the same splendid spirit which has characterized the preparations in St. Louis, this will be a memorable convention and will as certainly mark a turning point in the threatened invasion of America by the radicals who have already announced their program of disruption.



R. D. CORLETT

The Chairman of the Committee on Arrangements.

ST. LOUIS—THE CONVENTION CITY OF THE AMERICAN MINING CONGRESS FOR 1919

By WM. H. MAAS

Rome was built on seven hills. Water lanes led from her doorsteps for the traffic of the empire. From her centers the Caesars built countless massive roads which led to the corners of the then known world. Here, merchants and bankers had their fingers upon the very pulse of commerce, taking tribute of wealth of every kind, not only from the old coffers but from the greatest artists, the wisest philosophers, the sweetest singers, and the finest producers of both spiritual and material wealth.

Delegates to the Twenty-second Annual Convention of the American Mining Congress, to be held in this city from November 17 to 22, will find much in St. Louis that is common with the Rome of old. Built on seven hills, overlooking the great "Father of Waters," that limitless traffic-way of as rich an empire as Rome was in its prime, with a web of steel Appian Ways radiating from her doorways, our city beckons with irresistible invitation the commerce of a land more beautiful, more rich in minerals, more stable, more mighty than Rome, a democracy of blood toward whose standard the yearning hands of the world are upraised in the faith of the future.

No American city is attracting the industries St. Louis is today, and no other large city will grow as rapidly, now that the war is over and the entire world is calling on St. Louis and St. Louis' trade territory for everything that can be made, mined and grown. This is the first time St. Louis has been honored to act as host to the American Mining Congress. At first thought it may occur that St. Louis is a long distance from a mining camp, but a casual glance at the map will prove that such is not the case. Within a few minutes' ride of the city will be found the great coal fields of southern Illinois. Within several hours' ride of St. Louis will be found the great lead district of southeast Missouri. In these days when time is precious, and business men can ill afford to spend much time traveling a long way to a convention city, it is interesting to know that St. Louis is surrounded by the United States. Mail four letters in St. Louis simultaneously, if you will—one to Duluth, one to New Orleans, one to New York, and one to Denver—and all four will reach their destinations, north, south, east and west, at the same time, for the city stands at the crossroads of the country. St. Louis' central loca-



PARLOR FLOOR, PLANTERS HOTEL



RIVER FRONT

tion is permanent. It has taken first position in the production of railroad cars, shoes, open-hearth steel castings, stoves, wooden ware and hats, and has become the greatest hardware, jobbing center, and the second center for the jobbing of dry goods in the United States. It is located on the great Mississippi River, with an eight-foot channel leading to tidewater, at the point most advantageous for export trade with Mexico, the Carribean and west coast of South America.

And we would remind members of the mining industry that here is a city, modern in office buildings, hotels, beautiful parks, with the finest homes in the country, but at the same time older than the United States and rich in romantic traditions. Here is a city spreading over 62½ square miles of territory, on the banks of the mighty Mississippi River, in the heart of hill and valley scenery that equals the Berkshires and the Palisades, but which is, at the same time, a great industrial district, the hub of the railway cities, and within a night's ride of over 50,000,000 people. From the dawn to the close of the year St. Louis' weather is as good as any other American city, and much better than most of them. Autumn and spring are perfect seasons in St. Louis; winter, though milder than northern cities, affords ample opportunities for indulging in winter sports; summer days are more favorable than in most of the cities, because of the prevailing southwestern breezes off the Ozark Mountains and the low degree of humidity.

Stepping over the span of years that have intervened between the St. Louis of 1919 and the St. Louis of bygone days, you will find a city whose residence section reminds you of the pages of the home-builder's inspiration book. Homes, homes, everywhere. Homes, the synonym of stability. Homes, breeding fidelity. Homes, standing for conservatism, for careful investments, for safety, for caution, for loyalty, every attribute which should

make for good citizenship. Into that circle of home ties and affections St. Louis welcomes its visitors, making their coming to our city more than a business trip, and more like a family reunion. Broad boulevards with their rows of beautiful trees—you can find houses just as costly in other cities, but nowhere do you find such a variety of good taste in architecture, such care in the planning of landscape and maintenance of shade trees, shrubbery and flowers are such evidence of what can be accomplished in the development of homes.

The churches of St. Louis run the gamut from old and quaint to new, modern and splendid. The New Cathedral (Catholic) on Lindell Boulevard is not only one of the



RAILWAY EXCHANGE BUILDING.

With a floor space of 514,000 sq. ft.

largest church buildings of modern times but one of the finest. The building cost \$3,250,000, the main altars \$100,000 each and the organ \$50,000. The "Kingshighway" from one royal fort to another during the Spanish regime, and today one of the city's finest boulevards, is the show street of churches. The Second Baptist with its great campanile, is Italian Gothic; St. John's Methodist is neither pure Greek nor pure Roman, but belongs to the Italian Renaissance of the fifteenth century; Temple Israel, with its great columns, is pure Corinthian, and the Christian Science is Italian Renaissance. At Thirteenth and Locust is the historic Christ Church Cathedral (Episcopal).

If you are a lover of the great outdoors, you will be interested in the parks of St. Louis, of which there are over 2,700 acres. Forest Park with its rolling woodlands, fast developing zoo, with the world's largest bird cage, municipal golf links and tennis courts that are artificially lighted, making them available for use at night as well as day. O'Fallon's Park, Tower Grove Park are among the other well-known parks of the city.

All these things you will have an opportunity to visualize when you come to St. Louis for the American Mining Congress. You will like St. Louis and the cordial good-fellowship of its people. You will realize why it has acquired the title of the "most hospitable city in the world."

You will profit as a result of the program that is being prepared. You will enjoy the free and easy spirit that will prevail. You

will go away, glad that you were in St. Louis, and anxious to return to the city where the glad hand is always extended.

Here are a few facts about the 1919 convention city:

The central convention city of the United States.

The fourth city in population, estimated 905,650.

There are 40,000,000 people within the ordinary commercial distribution radius.

Municipal administration is highly favorable to new industries.

The fifth city in manufacturing.

Has over 3,300 factories with an annual payroll of \$135,000,000, employing approximately 190,000.

Manufactured products valued at over \$950,000,000.

Coal production within 100 miles of St. Louis, 20,000,000 tons per annum, and St. Louis' consumption is 12,000,00 tons per annum.

Cheap steam coal supported by Keokuk Dam hydro-electric production makes available cheap electrical energy for manufacturing purposes.

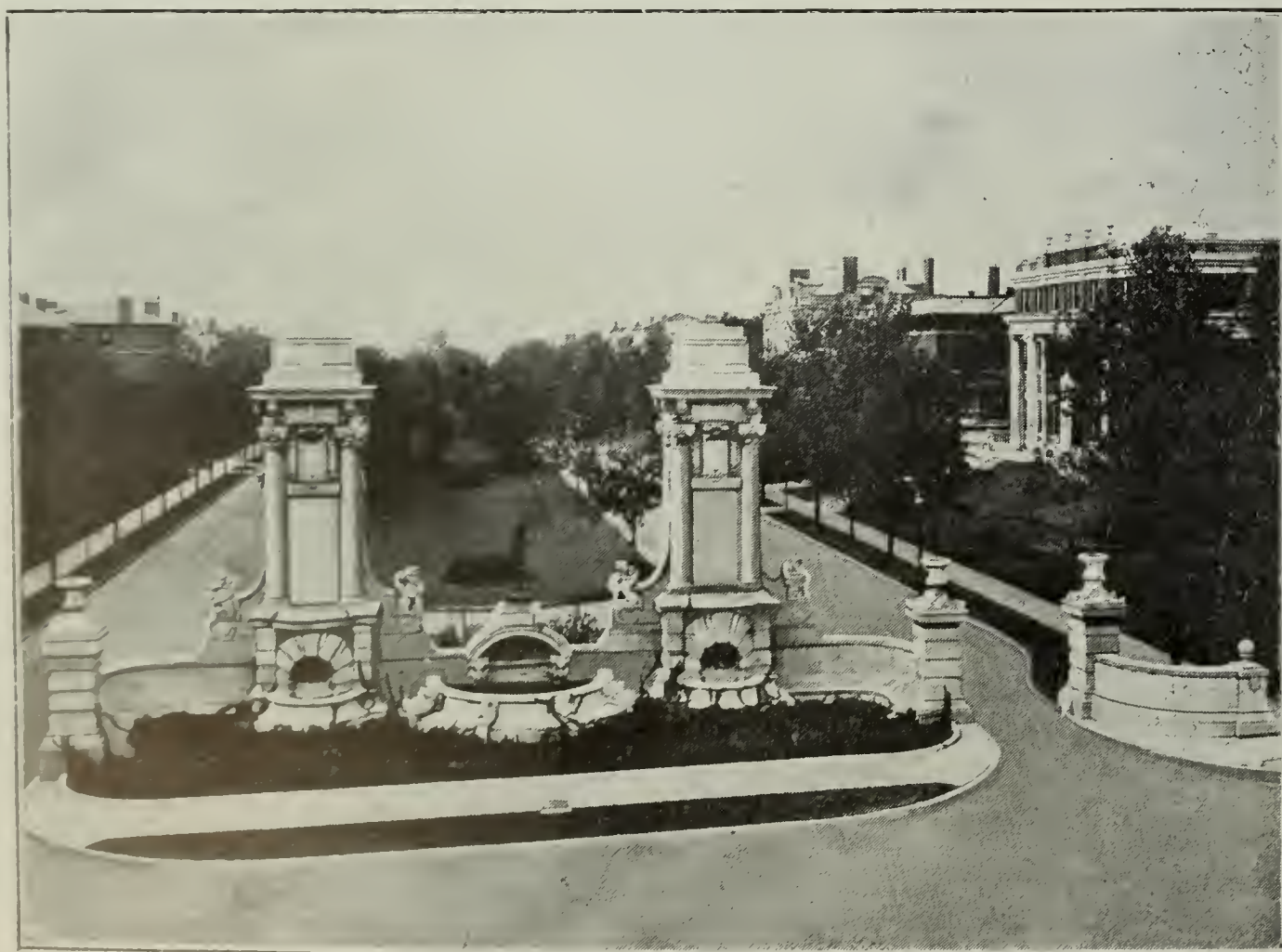
Banks do a gross business, approximating \$20,000,000,000 a year, including clearings of \$7,834,138,038, with resources of over \$500,000,000.

Largest plug tobacco manufacturing center in the world.

Largest horse and mule market in the world.

Largest shoe market in the world.

Largest primary fur market in the world.



ENTRANCE TO KINGSBURY PLACE

Largest open-hearth steel casting center in the world.

Largest chemical and drug market in the world.

Largest manufacturing center for stoves in the United States.

Largest hardwood lumber market in the United States.

Four bridges span the Mississippi River at St. Louis.

Receipts of the St. Louis Postoffice for the year ending December 31, 1918, were \$7,140,563.72.

St. Louis Symphony Orchestra is one of the most celebrated musical organizations in the world.

Has fifty-five parks and playgrounds, containing more than 2,700 acres.

Forest Park, one of the most beautiful parks in America, has 1,400 acres with forty-two



HOTEL STATLER

Twenty-six railroads enter St. Louis.

St. Louis stands fifty-sixth in per capita of indebtedness, with the per capita \$26.54.

Area of St. Louis is 61.37 square miles.

Does an annual foreign business of over \$100,000,000.

St. Louis has twenty-one important lines of business such as shoes, chemical, iron and steel, hardware, groceries, clothing, shirts, millinery, etc., doing a total business of approximately \$1,500,000,000.

Washington University and St. Louis University are among the largest and best educational institutions in the country.

The St. Louis Public Library has one of the finest buildings in the United States, with ten branches and sixty stations.

tennis courts, twenty-two baseball grounds and three golf links.

Missouri Botanical Garden (Shaw's Garden) is excelled only by the Royal Botanical Gardens of Kew, England. Contains over 100,000 specimens of plant life and 125 acres. Value, \$7,000,000.

St. Louis birth rate 17.84 persons per 1,000 in 1918.

St. Louis death rate 16.76 persons per 1,000 in 1918.

Has 700 miles of paved streets.

Has 875 miles of sewers, contributing much to its low death rate.

St. Louis consumes 102,000,000 gallons of water daily.

Has nineteen miles of river front.



LINDELL AND WEST PINE BOULEVARDS

St. Louis has a modern 900-foot dock just completed at a cost of approximately \$250,000, equipped with rail connections and is used in connection with the federal barge line service between St. Louis and New Orleans, which line is destined to make St. Louis a seaport of the first magnitude.

Assessed valuation of property, \$694,161,750; indebtedness, \$17,708,000 with privilege of issuing \$24,000,000 more of bonds; tax rate, \$2.35 per hundred on basis of 70 per cent valuation for residence property and 60 per cent on business.

New Catholic Cathedral is one of the finest church edifices in the United States. Length, 305 feet; height of main dome, 227 feet.

Railway Exchange Building contains thirty acres of floor space, has thirty-eight elevators.

Has the most beautiful residence section of any city in the nation. Over 37 per cent of the city's inhabitants are home owners.

St. Louis Art Museum ranks third among the art institutions of the nation.

St. Louis is the second largest producer of wire rope.

Is the most historical spot in the nation.

Is the largest hardware market in the world.

Is the center of zinc production for the world. All zinc prices are based on the St. Louis market.

The freight traffic of St. Louis for 1918 aggregated 75,000,000 tons.

Gold Production Shows Decline

Gold production for 1918 shows a decided drop from 1917 in the United States; from 1913 to 1917 the production has averaged annually about 4,450,000 ounces. Last year the output amounted to 3,313,373 ounces;

in 1916 it was 4,479,056 and in 1917, 4,051,440 ounces.

MINING HEAVY CONTRIBUTOR TO INCOME TAX TOTAL

Manufacturing corporations contributed 62 per cent of the total income and excess tax on corporations for the year 1917, according to figures just made public by the Bureau of Internal Revenue. The number of taxable returns from such corporations was 58,788, reporting a total gross income of \$40,437,716,898. The deductions were \$34,701,711,263, leaving a total net income of \$5,736,005,635, on which the tax was \$1,326,960,480.

The next highest percentage was from corporations engaged in trade or merchandising which on a total net income of \$1,481,060,780 paid a tax of \$324,847,368, or 15.16 of the total.

Taxes received from other industrial groups were as follows: Agriculture and related industries, \$20,876,565; mining and quarrying, \$212,365,019; construction, \$29,725,220; transportation and other public utilities, \$127,048,016; personal service corporations, \$10,470,071; financial corporations, \$89,680,061; inactive concerns and concerns whose business was not defined, \$472,951. The total tax on corporations was \$2,142,445,769.

The total number of taxable returns filed was 232,079, showing a total net corporation income of \$10,730,360,211. There were filed by corporations for the year 1917, 119,347 returns showing no net income, total deductions exceeding total gross income by \$629,607,562.

THE MONETARY POSITION OF GOLD

BY JOHN CLAUSEN¹

A great man once said, "Necessity opens our eyes to the advantage of fresh principles," and as I see it this is now the position in which, we as other nations, find ourselves. The greatest war the world has ever seen has so altered conditions that methods and customs different from those heretofore known or used must necessarily take the place of the old in order to keep abreast of the new order of things. In reality, a very important issue is presented as to whether the standard of value of the world will in future be gold or become a combination of silver and gold, and if so, what effect such changes would have on the trading powers of nations. It is obvious that if a bi-metallic standard were adopted as media, the question of the value between the metals themselves would become one of vital concern. Then again for the actual needs of people there may be a scarcity of gold circulating as money for trading purposes, or as affecting the position of governments and banks and the availability of that precious metal in proportion to liabilities.

There are many interesting angles from which to view this important subject, but it may be of general benefit to here recount what happened in this country during and after our Civil War.

As an inevitable result of government policy which had placed upon the banks a burden too heavy for them to carry, the financial institutions in New York and other sections were, during the Civil War, forced to discontinue specie payments, which subsequently about the suspension of the National Treasury. At the beginning of 1862 a bill was introduced which had for its purpose the making of government notes legal tender, and although that measure was considered unconstitutional, it became law in February of the same year. The issue of greenbacks payable to bearer, after several amendments of the bill, was authorized up to the maximum of \$400,000,000. When the greenbacks were put out it was expected that they would circulate at par with the gold dollar, containing 23.2 grains of pure metal, but a year after the first Legal Tender Act had been passed paper money had an exchange value equal to only 14.5 grains of gold. Its value rose in August, 1863, to 18.4 grains, but fell in July, 1864, to 9 grains, which appears to have been its lowest point. The premium on gold was then such that a dollar in paper money was not worth more than 36 cents in gold coin.

The most striking example of profiteering during that period was the Black Friday Con-

spiracy of September 24, 1869, when a group of speculators bought up large quantities of gold—creating an artificial scarcity—and as a result that commodity could only be obtained from this clique at ruinous terms. This brought about many failures, and to check gambling in gold and reduce the premium on it, the Anti-Gold Law was passed, but as it did not materially bring the premium on gold to a lower level, it was very soon repealed.

In June, 1862, Congress authorized the use of "Postage and other stamps of the United States" as money because of the demand for small currency, notwithstanding the circulation of the so-called "Shinplasters," which were issued in denominations of 5, 10, 20, 25, and 50 cents.

In some of the western states attempts were made to maintain specie payments—after they had in the main been given up in the eastern states—but California alone had the distinction of remaining on a sound metallic basis during the Civil War. In New York some of the banks felt confident of ability to continue paying cash, but none did—if the records are complete—with the exception of the Chemical National Bank. The fact that this bank did not suspend specie payments either in the panic of 1857 or in the general disaster of 1861, and that it continued to redeem its pledges in gold for twelve years after the Government had begun to dishonor the demand notes of the nation is a fact well worth recording. It was not until 1876 that gold again sold at par throughout the United States.

Since that period the more notable event was the panic of 1893, which was followed by a depression throughout the nation, with the result that a large amount of gold was drained from this country to Europe. The Treasury's reserve became so low in November, 1894, that a sale of government bonds was resorted to; in fact, the stock of coin was reduced to such an extent that there were outstanding more gold notes than coin, leaving a part of the certificates represented by bullion in the form of bars. Again, during February, 1895, and also in July of the following year, strong syndicates headed by leading bankers in New York accomplished the difficult task of bolstering up the finances of the United States Government and it was largely due to their activities that the United States remained on a gold basis. The success of these combinations had a far-reaching influence on business.

¹ Vice-president, The Chemical National Bank, N. Y.

and as soon as it was seen that the gold obtained from abroad was not going to be lost at once as in previous bond sales, confidence was again revived and the financial position of the United States improved so favorably in the eyes of Europe that it was possible to float large holdings of American securities abroad.

In August of 1914 Foreign Exchange became demoralized, and to remedy that situation a gold pool was created, when influential banks and bankers throughout the country joined in an agreement to provide mail and telegraphic transfers to Europe in lieu of gold for export which proved a helpful factor in restoring order and confidence.

For several years prior to the declaration of war in Europe the countries of France, Russia, and Germany especially had been engaged in an eager competitive scramble for gold which resulted in the holdings of their great state institutions increasing rapidly. On this account, at the outbreak of hostilities, we found them with what was up to that time the peak of their gold reserves.

The embargo which was universally adopted clearly demonstrated the desire of every commercial nation to control and retain its supply of gold. As far as the United States was concerned, other than the necessity of obtaining government permission to export gold in coin or bars, its circulation in this country has not been restricted—although the efforts of banks and individuals alike have been directed towards harmoniously cooperating with the Government in concentrating the nation's supply with the Federal Reserve Bank's.

One of the most curious economic features of the present situation is the strong light which it has thrown on the fact that thing, even when that thing is gold. That it is possible to have too much of a good thing is forcefully demonstrated if we glance at the financial position of the Scandinavian countries where the law has been carried so far as to relieve the government banks of the statutory obligation to buy gold and coin it for all those who bring it in. This naturally prevented other countries dealing with Scandinavia from paying for purchases in gold, and the barter of commodities was the only means open for concluding commercial transactions.

It has lately been said that the world is divided into two classes of countries; those which decline to accept gold and those which refuse to part with it. Sometimes it is asked how anyone can possibly refuse to take gold in payment, but this is explained by the statement that gold in bars or foreign coins is not legal tender anywhere. No person in Scandinavia, for example, could be made to take gold bars or American eagles in reim-

bursement for goods to meet a required payment in legal tender currency of Denmark, Norway, or Sweden.

The issue and circulation of paper credits throughout the leading nations of the world has been proportionately far greater than their holdings of gold and this state of affairs has naturally resulted in inflation on an alarming scale. The thought, however, that European nations may possibly repudiate part of their war debts for the sake of reducing the amount of currency outstanding against government bonds or notes is obviously superficial. Finance has become an international, rather than a national question and the monetary history of any country tends to become more and more merged with that of the whole civilized world.

International credit is firmly established on a gold basis and no country has any interest in upsetting the present standard, although it is contended that notwithstanding a great production of new gold it may not necessarily assure universal gold standardism as it would be a mere drop in the bucket of our future needs. If the world's credit, therefore, is to be carried on with gold, every ounce that can possibly be produced will be required as a basic foundation upon which international and national finance has been reared.

The production of gold is a vitally essential industry which, for obvious reasons, should be promoted to the fullest extent. It is very apparent, however, that with a fixed value for the yellow metal, together with the rapidly increasing cost of material, labor and transportation, this particular industry as now developed is seriously affected and it would seem inevitable that unless some form of government relief is given to the producing mines, many of them will be compelled to discontinue operations.

In a letter addressed to the Honorable Charles A. Sulzer relating to the present conditions concerning the production of gold in Alaska, the Secretary of the Treasury clearly voiced the attitude of our Government when he stated, "I fully appreciate that with the rising cost of raw material and labor and with a fixed value for their output, the gold miners are facing difficult conditions. I should be sorry, however, if for this reason there were any relaxations in the effort to produce gold. At no time has this country so much required the largest possible production of gold as at present. . . . In order to place the enormous amount of government bonds required to finance our war expenditures, a large credit structure will inevitably be erected upon our gold reserves, and it is necessary that these reserves—which are the foundation of the structure—shall be maintained on the broadest possible basis."

There are people who argue that if the

Government would agree upon a plan to increase the value of gold from \$20.67 to say \$30 or \$40 a fine ounce, it would make a settlement of obligations possible with only half the metallic requirement otherwise necessary to redeem outstanding paper credits. This course, radical to say the least, would have a disastrous effect upon all credits and especially reflect upon the cost of living which, in all probability, would climb to limits beyond the reach of the average citizen. Increasing the value of gold or giving it a premium does not necessarily give it a higher purchasing power, but, on the other hand, in the final adjustment seriously disrupts the basis of international credit.

When peace is finally restored all the world will be faced with a period of great financial and industrial uncertainty and to pass through it successfully will be a task that will need all the statesmanship civilization can muster. To increase this uncertainty by tampering with the standard of international payment would be an extraordinarily futile means of handling the situation and only make the confusion worse confounded.

The principal nations of the world have adopted gold as the basis of their currency system. The market price for it is everywhere the same and equally certain at the standard price of \$20.67 a fine ounce. It may be an anomaly that economic civilization should depend for means of payment on the supply of a particular metal, but it will take much ingenuity to find a practical substitute for gold and secure for it the popularity and confidence that this precious metal commands. The mere fact that it has been chosen by the most enlightened commercial nations is strong proof that it is the best single commodity for practical use as a standard.

The disproportionate distribution of gold among world nations attracts attention to the study of the part that this metal plays and is to play in future in the world's economic affairs. It is apparent to the careful observer that the pace at which the production of gold increases is not as fast as the rise in value of the world's wealth.

The vast obligations piled up by the nations, the huge issues of paper currency, the refunding of debts and resumption of specie payments are among the most urgent and difficult problems with which the world is now confronted. This makes it only too apparent that gold is a necessity for the credit and financial unity of nations and it is essential that an adequate foundation of gold be created to uphold that system.

One of the first acts of the British Gov-

ernment after England was plunged into war was to insure that the gold turned out of her mines should be safeguarded, and steps were taken for the deposit of new holdings in Canada, South Africa and Australia to the credit of the Bank of England. This arrangement had many advantages and tended greatly to facilitate the concentration of the metal where it was most needed for the settlement of liabilities, and Great Britain has in this way used her gold unsparingly to meet immediate obligations.

The enormous increase in credits and paper money circulating in every country of the globe is reacting very materially on the present and prospective supply of gold, and it would seem timely to briefly review its relative influence on prices in general, which in normal times zig-zag to meet the demand for and the supply of credit and gold. If, for instance, prices and wages are increased, so far as they are paid in gold, it will require a proportionate amount of money to meet the higher costs. It follows as a matter of course that a larger circulation of money is required to meet the demand. While the quantity of gold available as money is seen to exert an influence in the direction of raising or lowering prices, it would seem equally certain that as international commerce progresses and the system of credit expands, an increased world's supply of gold is a matter of vital importance.

It is true that, in practice, many transactions of buying and selling are set off one against another, but there can never be a system of finance carried on in any country, operating under a gold standard, without a basis of money somewhere.

The tendency to a further rise in prices is likely to continue for several years; the increase in the cost of living, and the importance of adjusting wages to prices; the increasing obligations of nations extending over long periods; the problem of a universal standard of values; the development of commerce and banking; the growth of population and wealth—are questions which are becoming of increasing importance as time runs on. With the falling off in the production of gold and a material rise in gold prices, a very serious state of affairs is presented which is likely to affect the international economic position of all peoples. We are at the dawn of a bigger financial and commercial tomorrow, and while the situation is fraught with a great many difficulties, we must face combinations as they exist and through frank and free discussion arrive at a practical and sound solution. Let us hope that our united efforts will crystallize into a practical plan for the alleviation of the present critical situation, and that in the process of correction we may establish those principles which lie at the base of national progress and human welfare.

A PROPOSED SOLUTION OF THE COMPLEX GOLD PROBLEM

H. N. LAWRIE¹

At the annual convention of the American Bankers Association, the following resolution was adopted unanimously on October 2, 1919:

Whereas, The gold production of the United States, which declined so rapidly during the war period, has since the signing of the armistice still further declined because of the extreme economic pressure to which the gold-mining industry has been subjected, and

Whereas, Gold is the standard of value and the basis of all credit, and it is vitally important to the financial and commercial life of the nation that the monetary reserve be protected, now, therefore, be it

Resolved, That the American Bankers Association, in convention assembled, respectfully requests and urges upon the Government of the United States the desirability of maintaining the domestic production of new gold in sufficient volume to satisfy the present anticipated trade requirements for this metal, and asks that steps be taken immediately to that end, and be it further

Resolved, That the secretary of this association be, and hereby is, instructed to send a copy of this resolution to the President of the United States, the Secretary of the Treasury, and the members of the Senate and the House of Representatives of the United States, advising them of its adoption, and be it also further

Resolved, That, considering the great importance of this subject, this convention recommends to the Executive Council that the matter be referred to the Federal Legislative Committee and the Currency Commission for an exhaustive study and such action as may be deemed necessary.

It will be recalled that, on September 27, 1918, the American Bankers Association passed a resolution, urging the Government to take steps to maintain the normal production of gold in the United States. At that time, a war emergency existed and it was anticipated that it would be necessary greatly to expand the credit structure of the United States.

A year has passed since the armistice was signed, and this same organization adopts a resolution which is far more specific and emphatic with regard to protecting the monetary reserve from depletion by other than monetary uses. It is evident that the bankers have decided that the financial requirements of reconstruction and the reestablishment of international

trade on a sound basis make it as necessary now to protect the monetary reserve from unnecessary depletion as it was when the country was under the pressure of war.

The bankers are informed that the mine production of gold in the United States has decreased in the last three years some 33 per cent, and that the economic pressure generally has become more intense during 1919, which will result in a corresponding decline in the output of the metal for this year; they know that the consumption of gold in the arts and for manufacturing purposes will exceed the production of new gold this year and that for next year the production will fail by a wider margin to meet the trade requirements unless something substantial is done to balance the economic equation of the gold-mining industry; they know that unless the production of new gold is sufficient to satisfy manufacturing requirements, there are but two alternatives, namely:

1. That gold now in the monetary reserve, dedicated to monetary use, will be withdrawn for the manufacture of jewelry, etc., and will, therefore, lose its monetary utility.

2. That sales of gold for manufacturing purposes will have to be curtailed or discontinued, which will threaten the very life of the manufacturer and consumer of gold.

The bankers realize that neither of these alternatives is desirable, but insist that the monetary reserve be protected from industrial consumption and that the Government take steps to stimulate the production of new gold to completely satisfy all manufacturing requirements. To stimulate the domestic production of gold without altering the monetary unit—a change which for financial and economic reasons cannot be considered—is the problem which now confronts the consumers no less than the producers of gold. This resolution of the American Bankers Association specifically assigns a definite responsibility to this, the third National Gold Conference, which has been called to develop a constructive solution of this most complex and important national problem.

A careful study of the following facts with reference to the present monetary status of gold, the production of new gold, and the consumption of gold in the arts and manufactures, should prove helpful in the formulation of a constructive national policy, which will at one and the same time

¹ Chief, precious and Rare Metals Division, American Mining Congress.

protect the monetary reserve, stimulate the gold production of the United States and thereby insure the consumers of gold a sufficient supply.

THE DECLINE IN UNITED STATES GOLD STOCK AND GOLD RATIO OF THE FEDERAL RESERVE BANK

In accordance with the Circulation Statement of the Treasury Department, the general stock of gold coin on July 1, 1919 (including bullion in the Treasury), amounted to \$3,095,077,467, and on October 1, \$2,905,726,555, a net loss to the monetary gold reserve of \$189,350,912, or 6.1 per cent. This indicates how rapidly and to what extent the total monetary gold reserve of the United States has contracted.

The statement of the Federal Reserve Bank of New York shows hat on June 6, 1919, the total gold reserve was \$766,149,538, and on October 17, 1919—19 weeks later—it amounted to \$552,495,772, a decrease of approximately 28 per cent. The reserve notes of the New York Reserve Bank in circulation increased about 3 per cent in this same period, while the net deposits declined some 10 per cent. The legal requirements under the Federal Reserve Act are that 35 per cent of the net deposits and 40 per cent of the Federal Reserve notes in circulation shall be gold. The Federal Reserve Board first sets aside 35 per cent of the deposit liabilities, and the remainder of the reserve gold is then computed in terms of the Federal Reserve notes in circulation. On October 17, the remaining gold reserve, after having satisfied the deposit liabilities, in accordance with the above formula, amounted to but 39.9 per cent of the Federal Reserve notes

in circulation, which is below the legal requirement one-tenth of one per cent. This may be attributed to a shrinkage of 28 per cent in the gold reserve and the ex-

CHART 1—TABLE 1.—Gold Imports and Exports of the United States.



TABLE 1—CHART 1.—Gold Imports and Exports of the United States
Fiscal Years 1914-19 and the First Quarter, 1919-20

Years ending June 30	Exports	Imports	Gold balance against U. S.	Gold balance in favor U. S.
1913-14	\$112,038,529	\$66,538,659	\$45,499,870	
1914-15	\$146,221,148	\$171,568,755		\$25,344,607
1915-16	90,249,548	494,009,301		403,759,753
1916-17	291,921,225	977,176,026		685,254,801
Total three war years, 1914-17	\$528,391,921	\$1,642,754,082		\$1,114,350,161
1917-18	190,852,224	124,413,483	\$66,438,741	
1918-19	116,575,535	62,363,733	\$54,211,802	
Total five years, 1914-19	\$835,822,680	\$1,829,531,298	\$120,650,543	\$993,708,618
1st fiscal quarter, 1919-20	128,913,011	5,808,617	123,104,399	
Total five years and one quarter	\$964,735,691	\$1,835,339,915	\$243,754,942	\$870,004,219

pansion of reserve notes in circulation by some 3 per cent, while had a decrease of some 10 per cent in net deposits not occurred, the situation would have been still more critical. It is evident that the credit expansion due to increasing the currency in circulation exceeded on October 17 the legal gold reserve minimum for the Federal Reserve Bank of New York. The decline in the gold ratio of the entire Federal Reserve system has been progressive from week to week for some time past, thereby rapidly and consistently approaching the legal gold reserve limit.

The time, therefore, has arrived when not only the currency in circulation should gradually be contracted, but also the monetary gold reserve should be very cautiously guarded against depletion by other than monetary uses. While it is beneficial to our international trade to send foreign countries as much gold as good finance will permit, the effect will be correspondingly to reduce the gold reserve of the Federal Reserve Bank, upon which net deposits and bank notes in circulation are based. This process is one of healthy financial rehabilitation of the countries with whom we desire to trade and of depletion of our own gold reserve. It is evident that, as the volume of currency is contracted, more gold may safely be spared for export without injury to our domestic financial position.

UNITED STATES IMPORTS AND EXPORTS OF GOLD

It will be observed from Table 1, Chart 1, that the United States had imported gold in the amount of \$1,114,359,161 in excess of the exports during the three years ending June 30, 1917. Since our entrance into the war, the flow of gold out of the country has been continuously in excess of the amount coming in, so that, for the fiscal year ending June 30, 1918, the gold balance against the United States was \$66,438,741; for the fiscal year ending June 30, 1919, \$54,211,802; and for the first quarter of this fiscal year 1919-20 (the months of July, August and September), the amount was \$123,104,399, making a total drain upon our gold resources of \$243,754,942 up to September 30, 1919. The gold balance in favor of the United States on June 30, 1917, amounting to \$1,114,359,161, therefore, had been reduced to \$870,604,219 on September 30, 1919, or about 22 per cent. The black area marked "A" on Chart 1 graphically represents the extent to which we have exported gold in excess of our imports, while the area "B" represents the gold balance in favor of the United States during the period before our entrance into the war.

It is important to note that, since the embargo on the exportation of gold was removed, we have shipped out of the coun-

try in these last three months of July, August and September, \$128,913,011, and have imported but \$5,808,612, recording a net loss of the gold held in the United States of \$123,104,399, of which amount \$50,532,913 was sent to China, Hongkong and British India. Approximately 40 per cent of the entire gold exports from the United States to foreign countries during this period was sent to countries from which the possibility of its return is extremely doubtful. Every effort should be made to limit the gold sent to countries that are known to hoard gold, in order that our monetary gold reserve may be conserved for monetary purposes.

It has just been reported that Colombia and Salvador have passed new currency laws, making United States gold coins legally current as a medium of exchange in those countries. The trade balance with Colombia for 1916, the latest year reported, was against the United States in the amount of some \$12,000,000. It is, therefore, anticipated that our gold coin and bullion will be sent to that country in order to liquidate the trade balance which probably will continue in favor of Colombia. This fact is pointed out merely to indicate that many countries are finding it more expedient than ever before to adopt the same monetary vocabulary as has become the financial code of the larger nations of the world. There are other countries now on the silver basis which no doubt will soon find it necessary to adopt the gold standard in order to accommodate themselves to the new era of international trade. These citations foreshadow a larger international monetary use for gold.

DECLINE IN GOLD PRODUCTION

The gold production of the world reached its high point in 1915 at \$469,000,000, and, according to a very recent estimate, production for 1918 amounted to \$374,000,000, a decline of \$95,000,000, or approximately 20 per cent. Reports for 1919 from South Africa and other foreign gold-producing countries indicate that the decline for this year will be still more accelerated. Our chief concern in the gold production of foreign countries lies in the fact that, when the gold production declines, there is less new gold to find its way into the monetary reserves of the countries with whom we are transacting business, and many of whom are in debt. This fact makes it still more important that we should find some constructive means to maintain our normal pre-war gold production, in the hope that by the same means other nations may be able to maintain their normal production during this economic crisis.

In this same period, the mine production

of gold in the United States had declined from \$98,000,000 in 1915 to \$66,000,000 in round numbers, in 1918, or some 33 per cent. On account of the continued increase of commodity prices, the increased inefficiency of labor in 1919, and the anticipated decline in the base metal output of by-product gold, the mine production of gold for 1919 is estimated at some \$55,000,000. It is generally known that the copper and lead industries of the United States have been operating on about a 65 per cent basis for 1919, which will occasion a decline in the by-product gold output. The shutting down of the Homestake mine, which produced in 1918 gold in the amount of, roughly, \$5,000,000 becomes another important item to take into consideration in estimating the gold output for this year.

GOLD CONSUMPTION IN MANUFACTURES AND THE ARTS

It will be observed from Table 2, Chart 2, that from 1908 to 1914, inclusive, the consumption of gold in the arts shows a progressive increase from \$31,476,091 in 1908 to \$45,520,032 in 1914, an increase of \$14,043,941, or about 44.6 per cent.

In the year 1915, due to the uncertainty as to what responsibilities we would have to assume in the war, and the general business lethargy, the gold consumed in the trades declined some \$18,00,000 to \$37,820,027.

At the beginning of 1916, gold began to flow rapidly into this country, together with a large volume of war orders, which stimulated the pulse of our entire industry

and made for generally prosperous times. For 1916 and 1917, the gold sold for use in

CHART 2—TABLE 2.—United States Mine Production of Gold and Gold Furnished for Use in Manufactures and the Arts.

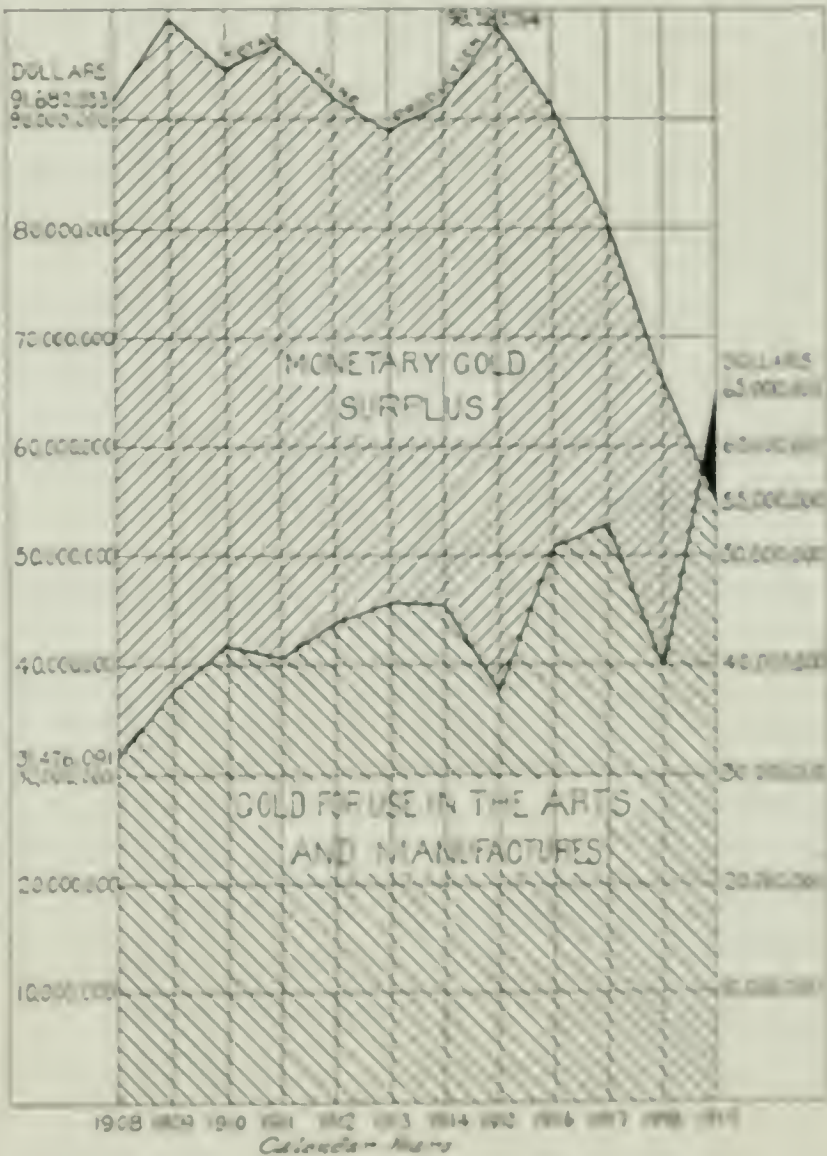


TABLE 2—CHART 2.—United States Mine Production of Gold and Gold Furnished for Use in Manufactures and the Arts
Calendar Years 1908-1919

Calendar years	Total mine production ¹	Total consumed in arts, etc. ²	Monetary surplus ³
1908	\$91,682,953	\$31,476,091	\$60,206,862
1909	99,189,947	37,628,769	61,561,178
1910	94,778,348	41,787,152	52,991,196
1911	96,860,352	40,834,292	56,026,060
1912	92,310,296	43,977,257	48,333,039
1913	89,118,410	45,864,066	43,254,344
1914	91,329,443	45,520,032	45,809,411
1915	98,283,714	37,820,027	60,463,687
1916	91,307,630	51,061,187	40,246,443
1917	80,624,484	52,915,641	27,708,843
1918	66,162,130	40,318,880 ⁴	25,843,250
1919	55,000,000 ⁴	65,000,000 ⁴	-10,000,000

¹ Statistics U. S. G. S. 1908-1918.
² Statistics U. S. Mint 1908-1918.
³ The remainder of the mine produced gold after satisfying manufacturing requirements.
⁴ Estimated mine production 1919.
⁵ U. S. Mint sales of New York Assay Office and Philadelphia Mint.
⁶ Estimated consumption in Arts 1919 based on actual sales of Mint to October 31, 1919, and estimated sales made by Superintendent U. S. Assay Office, N. Y., for remainder of year.

manufactures and the arts was \$51,061,187 and \$52,915,641, respectively.

On account of this tremendous increase over 1915 of some 40 per cent for each of those years, our financial authorities suspected that gold was being hoarded, and, in 1918, when the nation was confronted with large and uncertain financial responsibilities, placed an embargo on gold and issued restrictions with reference to allocating gold to the trades. This accounts largely for the low consumption in 1918 of \$40,318,880, a decrease from 1917 of some \$12,500,000, or more than 25 per cent.

The United States Assay Office at New York had sold gold for domestic manufacturing purposes in the sum of \$46,912,895, up to October 24, 1919, and of \$4,589,372 for export for manufacturing purposes. This is the first time that gold has been sold by this office for export manufacturing purposes, and indicates the precautions which are being taken by foreign countries to protect their reserves from depletion by other than monetary uses. These actual sales made by the superintendent of the New York Assay Office, together with his estimate of sales for the remaining period of the year, total \$61,702,267. To this total must be added the sales of gold made at the other mints of the United States for use in manufactures and the arts, in order to obtain the conservative estimate of \$65,000,000 for the trade consumption of gold for 1919. This total represents an increase of \$25,000,000 over 1918, or about 62 per cent. The gold coin which was destroyed by a large number of smaller manufacturing jewelers, who could not purchase the minimum amount of \$5,000 worth of gold bars sold by the mint, is not included in this estimate. Ever since 1885, the sum of \$3,500,000 has been allowed by the United States Mint to represent the United States gold coin destroyed for manufacturing purposes. There is little question but that an exact canvass of the situation would show that this amount has been greatly exceeded in recent years. In the opinion of many familiar with the jewelry business, the estimate of coinage destruction should not be placed at less than 10 per cent of the actual sales, or \$6,500,000 for 1919, while others are inclined to believe that it may far exceed this figure. However that may be, taking the exact sales as a basis for comparison, the gold consumed in manufactures and the arts this year will exceed the mine production of new gold by some \$10,000,000, and, if the destruction of coin be included, in excess of \$15,000,000. This negative monetary surplus, representing the shortage of newly produced gold for 1919 in comparison with the gold consumed in manufactures and the arts, is graphically

shown on Chart 2 by the solid black area to the extreme right of the chart.

It is interesting to know some of the reasons for this recent increase in the consumption of gold in the arts.

1. The restrictions under the Embargo Act were removed, which made it possible for the jewelers to obtain an unlimited supply of gold for their use.

2. The trend of the jewelry business has been towards the larger production of machine-made jewelry, which necessitates the use of very much heavier material to work upon.

3. The trade has been unable to keep pace with the rapidly increasing demand for jewelry and never has the demand been so great for "decorative" dental work.

SEGREGATION OF THE ORIGIN OF GOLD AS A BASIS FOR ESTIMATING FUTURE DECLINES

The average total mine output of gold for the decade 1908-1917 was \$92,457,551, and for 1918, \$66,162,130, a decline of \$26,385,421, or 28.5 per cent. The average total mine output of gold derived exclusively from siliceous ores for the decade 1908-1917 was \$61,189,760, and for 1918, \$41,909,673, a decline of \$19,280,087, or 31.5 per cent. The average total output of gold from the washing of placer gravel for the decade 1908-1917 was \$23,331,756, and for 1918, \$15,695,637, a decline of \$7,636,119, or 41.9 per cent.

Referring to Chart 3, it will be observed that the total mine output of gold has continuously declined from 1915, while slight increases were recorded in the placer and by-product gold output for 1916 and slight decreases in both of these sources of gold for 1917, showing beyond question that the decline for these two years was due entirely to the depreciated output from siliceous ore operations. This condition may be attributed to the fact that the cost of labor is a larger factor in the production of gold from siliceous ore than it is in the operation of placer deposits, and by-product gold would be produced regardless of the cost, as that is borne by the base metals contained. It is to be noted, however, that the placer output decline for 1918 from the decade average is greater than the decline of the 1918 siliceous ore output from the decade average. It is difficult to account for this in any other way than that labor is very difficult to obtain and that the economic pressure has become so intense as to force the shutting down of placer operations, and that from this time on we may look for a still greater curtailment of output from this source unless relief is provided.

The average total mine output of gold produced as a by-product from base ores

for the decade 1908-1917 was \$8,026,035, and for 1918, \$8,556,820, an increase of \$530,785, or 6.6 per cent. This increase can readily be accounted for by the increased production of base ores during the war period.

Referring again to Chart 3, it will be observed that the production of by-product gold remains fairly constant and does not, as it would be supposed, vary directly with an increase in the production of base metals. This is due to the fact that the large tonnages of extremely low-grade ores which are being worked at the present time, and which have contributed so extensively to increase the base metal output, do not contain but infinitesimal quantities of gold. By-product gold will never greatly influence the total gold production of the United States. It is also shown by Table 3 and the corresponding chart that gold derived from siliceous ores contributed 66.1 per cent; gold produced from the washing of placer gravel, 25.2 per cent; and gold resulting as a by-product from the smelting of the base ores of copper, lead and zinc but 8.7 per cent of the total average mine production of gold for the decade 1908-1917. In 1918, due to the rapid decline in gold output of siliceous ores and from placer gravel, combined with a less rapid decline in the output of by-product gold, we find that siliceous ore gold supplied in that year only 63.3 per cent; placer gravel gold, 23.7 per cent; and by-product gold, 13.0 per cent of the total mine production.

CHART 3—TABLE 3.—United States Mine Production of Gold in Dollars, Segregated as to Origin.

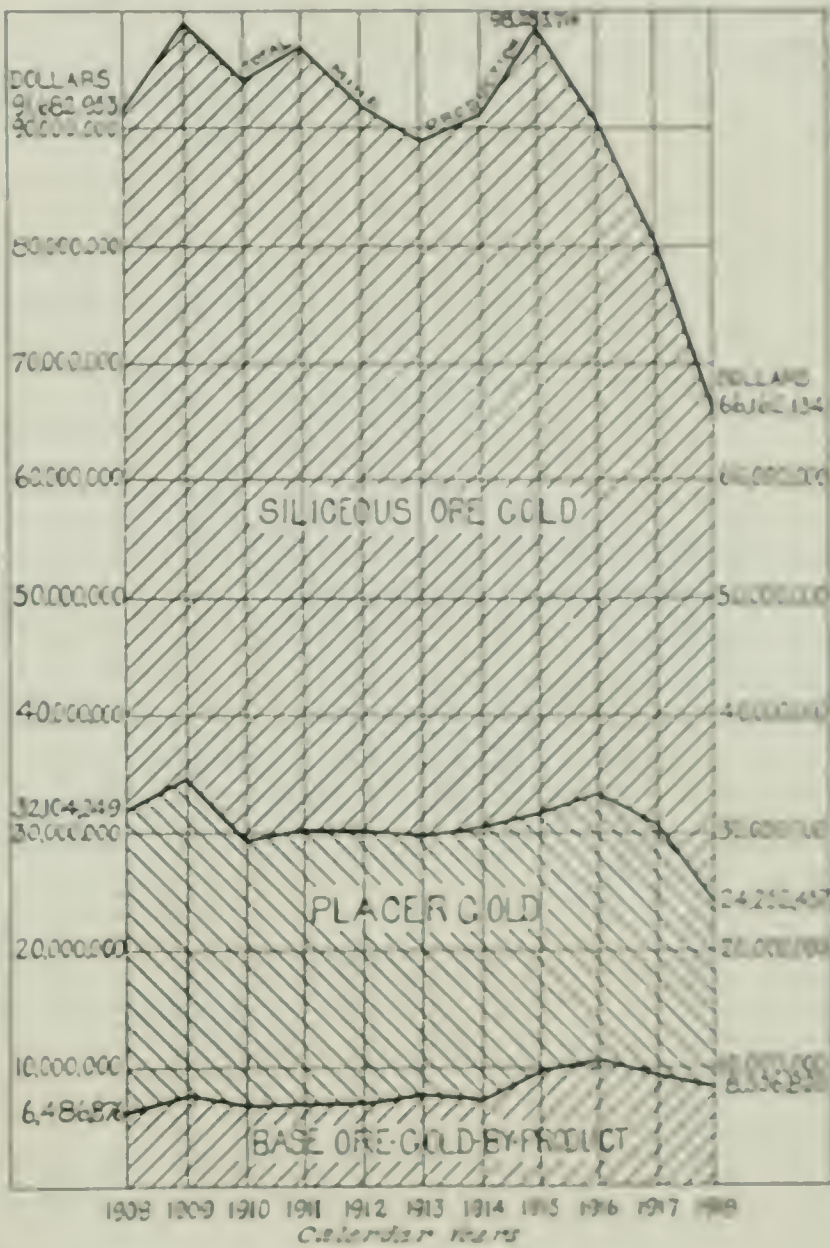


TABLE 3—CHART 3.—United States Mine Production of Gold in Dollars¹ Segregated as to Origin, Calendar Years 1908-18

Calendar year	Total mine output	Siliceous ore output	Per cent of total	Placer output	Per cent of total	Base ore-by-product gold	Per cent of total
1908	91,682,953	59,578,704	65.0	25,617,373	28.0	6,486,876	7.0
1909	99,189,947	64,341,781	64.9	27,036,705	27.2	7,811,461	7.9
1910	94,778,348	65,313,092	68.9	22,515,889	23.8	6,949,367	7.3
1911	96,860,352	66,369,199	68.5	23,415,168	24.2	7,075,985	7.3
1912	92,310,296	62,111,916	67.3	23,019,633	24.9	7,178,747	7.8
1913	89,118,410	59,222,751	66.4	22,238,424	25.0	7,657,235	8.6
1914	91,329,443	60,793,236	66.6	23,109,683	25.3	7,426,524	8.1
1915	98,283,714	66,404,089	67.6	22,272,501	22.6	9,607,124	9.8
1916	91,307,630	57,799,310	63.3	22,881,663	25.1	10,616,657	11.6
1917....	80,624,484	49,963,517	62.0	21,210,587	26.3	9,450,379	11.7
Average 1908-1917	92,547,551	61,189,760	66.1	23,331,756	25.2	8,026,035	8.7
1918	66,162,130	41,909,673	63.3	15,695,637	23.7	8,556,820	13.0
Per cent decrease 1918 from decade average	Minus 28.5%	Minus 31.5%		Minus 41.9%		Plus 6.6%	

U. S. G. S. Statistics.
¹ Excludes Philippines and Porto Rico.

The year 1916 records the high point in the production of by-product gold at some \$10,600,000, which coincides with a record production of copper in that year. The corresponding production in 1918 was about \$3,500,000, a decrease of \$2,100,000, or approximately 20 per cent. In 1919, there has been a decline in the base metal output, and undoubtedly this will be reflected in a reduction of the output of by-product gold for this year. It is safe to assume that \$10,000,000 will be in excess of the by-product gold production for many years to come, and that this would become the maximum of the gold output of the United States in the event that mining operations dependent upon gold as the chief source of value were forced to shut down.

Upon these facts and conclusions, and with the more intimate knowledge of the curtailment of tonnage and the shutting down of properties during 1919, is based the estimate of \$55,000,000 as the probable mine production of gold for the United States for this year. Assuming that no relief is given the industry and that the same economic pressure is continuous for next year, with the labor situation still unsettled and its consequent inefficiency, it is estimated that the gold production for 1920 will probably not exceed \$40,000,000, composed of a probably excessive estimate for by-product gold of \$10,000,000, together with an output from siliceous ore and placer gravel of \$30,000,000.

It is evident that the conditions which produced the economic pressure which has forced and will continue to force a decline in the gold output, will on the other hand be in favor of an expansion in the jewelry trade and the volume of gold consumed therein, and that, therefore, under the same economic conditions continuing through 1920, the consumption of gold in the arts probably will be more rather than less than that of 1919, \$55,000,000. It is evident that there will be a shortage of newly produced gold to satisfy the manufacturing and trade requirements of about \$10,000,000 for 1919 and about \$25,000,000 for 1920. If the same economic conditions prevail in 1921, the margin of deficiency will be still greater. To this extent, therefore, we may anticipate that, without any relief, the monetary reserve would be withdrawn for manufacturing and industrial purposes, in the above stated amounts. Should the sales to the trade be limited to the production of new gold, as will certainly be made effective unless immediate and constructive relief is provided to increase the production of gold, the trades will be unable to satisfy their full requirements for those years.

BONUS AND EXCISE

A PROPOSED BILL TO PROVIDE FOR AN EXCISE
UPON THE COMMODITY GOLD AND A BONUS
TO THE PRODUCERS OF NEWLY MINED GOLD

Tentative Preamble of the Bill

In order to protect the monetary gold reserve of the United States, by maintaining the normal production of gold within the United States and its possessions, there shall be paid to every person producing gold from the mines within the United States and its possessions, under the terms and conditions and in the manner hereinafter set forth, \$10 per fine ounce of such gold so mined, and said payments are to be made out of funds as herein provided by an excise on the use, manufacture or sale of gold in the United States for other than coinage or monetary purposes, and from other funds in the Treasury not required for specified purposes.

While the general nature of the proposal for bonus and excise is set forth in the tentative preamble above, it will be necessary for the conference to discuss the many provisions which must be clearly presented in detail in the remainder of the bill. Following are some of the essential points which are suggested for consideration:

1. *Amount of Bonus and Excise.*—An excise of 50 cents per pennyweight of fine gold upon all gold used for other than coinage and monetary purposes would be equal to \$10 per fine gold ounce of newly produced gold. Based upon the estimated production of new gold and the consumption of gold in the trades for 1919, the total bonus to be paid the producers would be one-half of \$55,000,000, or \$27,500,000; while the total excise income would be one-half of \$65,000,000 or \$25,000,000, leaving a balance in favor of income of \$5,000,000. Inasmuch, however, as there is considerable foreign jewelry sold in the United States, the excise income would be swollen to the extent of that volume of sales, so that the total excise income would be large enough to allow for a considerable expansion over the estimated production for 1919, and the Government would not be called upon to pay the bonus from funds other than those directly derived from the excise on the use, manufacture or sale of gold for other than coinage or monetary purposes. It has been stated by gold producers that a bonus of \$10 per ounce will be no more than sufficient to insure the production of gold to satisfy the anticipated trade requirements under present economic conditions.

2. *Duration of Bonus and Excise.*—During the war, when the bonus measure was being considered, the minimum time period for which the relief should be granted was expressed by the producers as being five years. It is certain that a period of less

ANNOUNCEMENT

At the Annual Meeting of the Board of Directors of The American Mining Congress in New York December 10, 1918, it was unanimously decided that the work of The Congress should be enlarged to meet existing conditions.

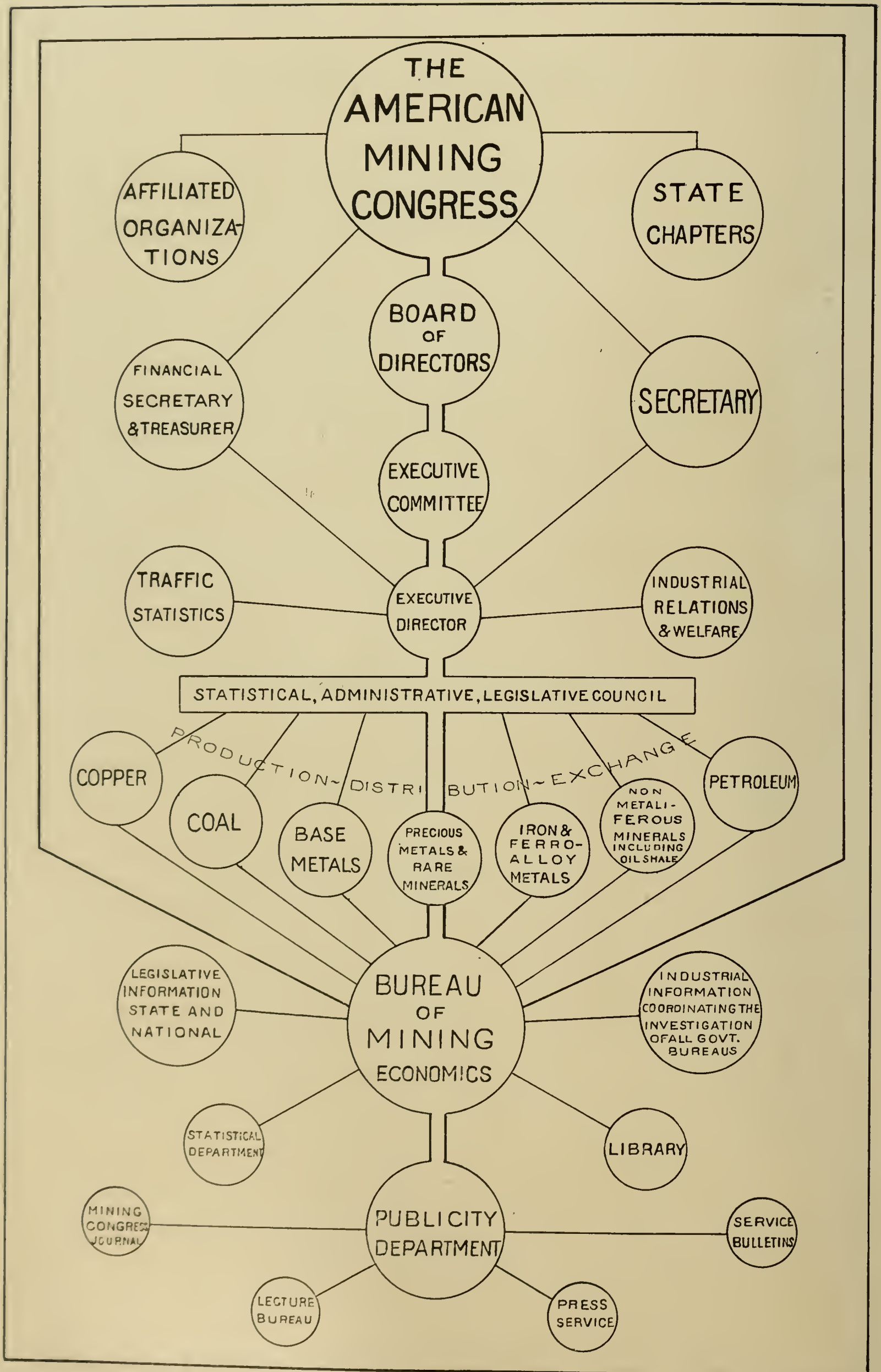
The plan for this enlargement was worked out in detail, and a chart made up showing the scope of work and the lines through which it should move. This plan was presented as an ideal toward which the Organization should work, enlarging its activities and its personnel as the financial support from the members justified. Divisions, as outlined, were to be created for legislative and administrative contact on the different vital divisions of the work. The State Organizations were to be woven into the fabric of the whole Organization by a close, direct contact through the Secretary, in addition to their independent activities in all matters of local interest.

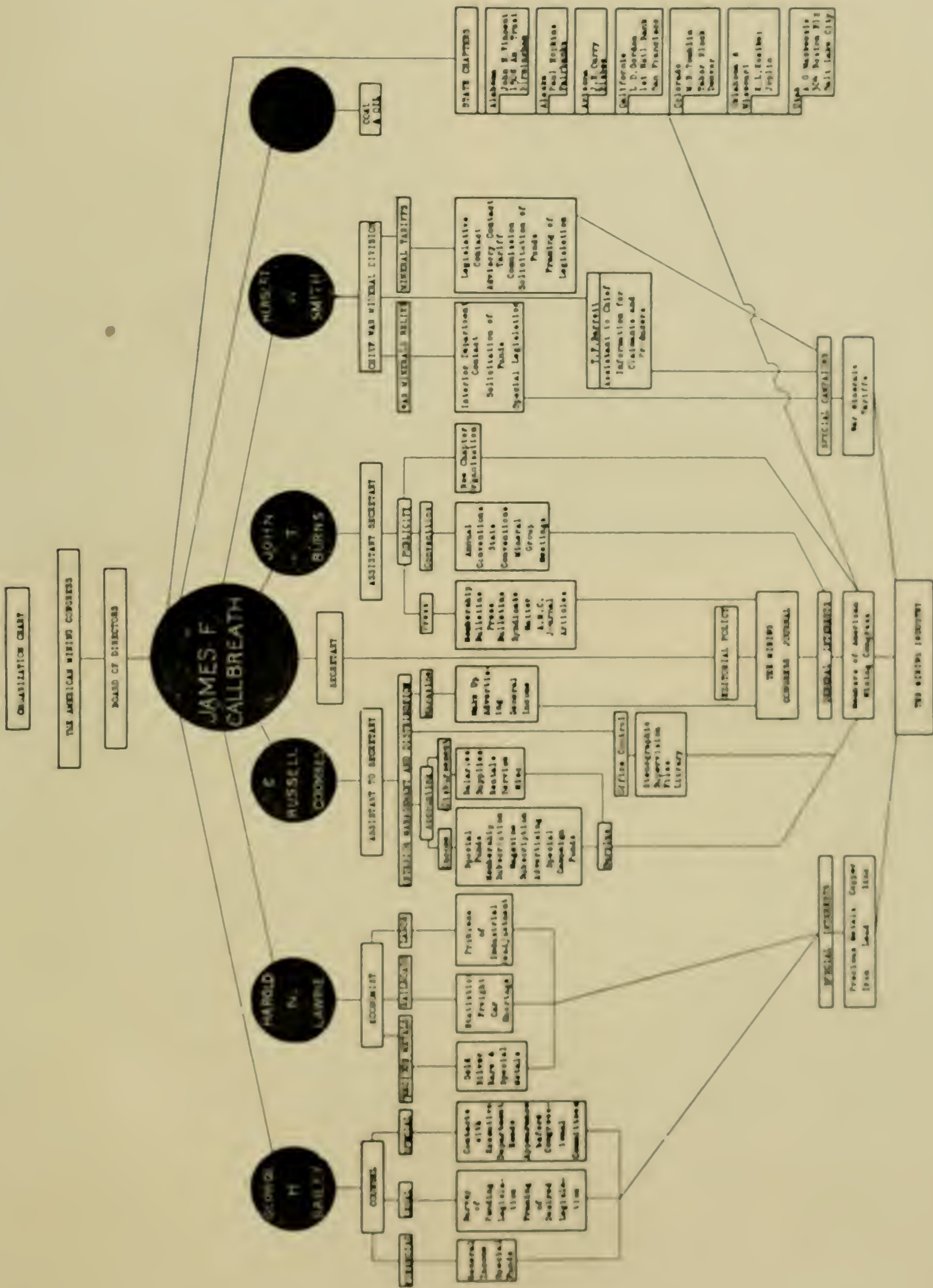
A comparison showing how much of this important work as originally planned has been accomplished is now to be shown.

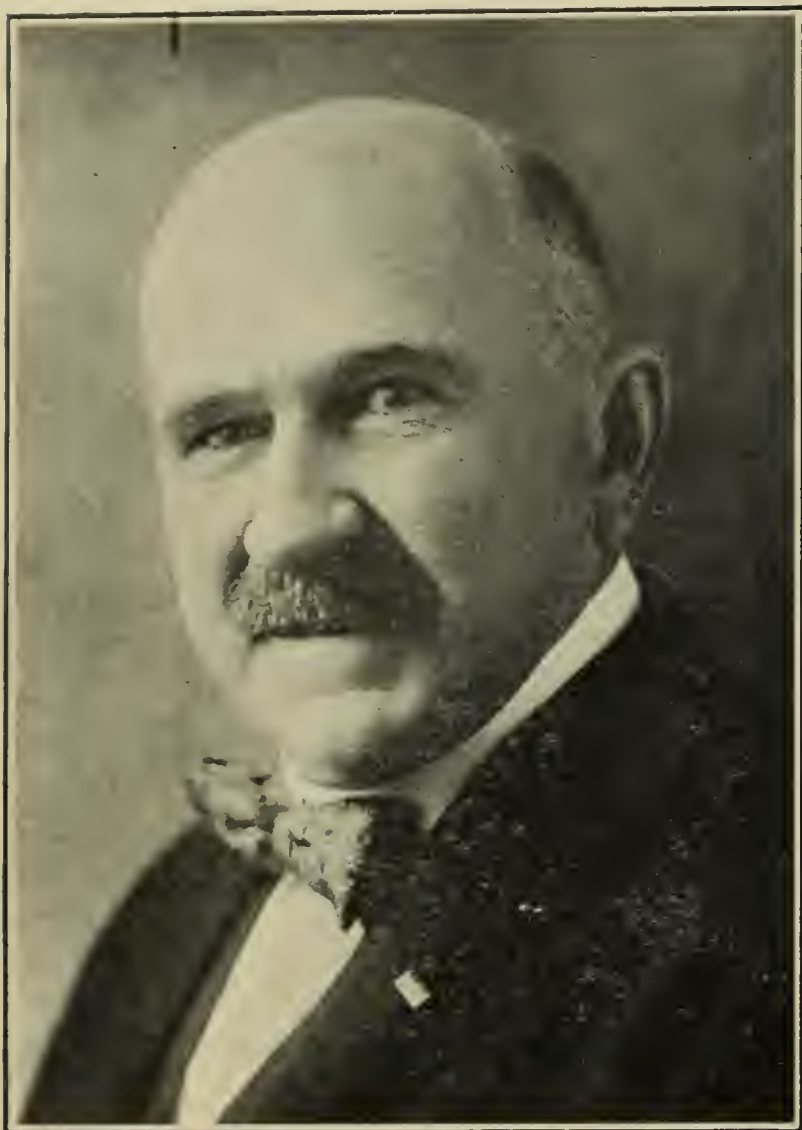
Less than a year ago when this elaborate plan for enlarging the scope of The American Mining Congress was laid it was not hoped that so much could be accomplished as has been in this short time.

On the accompanying two pages, this plan, as formulated at the Annual Meeting in New York December 10, 1918 is shown. Opposite is shown the organization chart of the active working Organization of The American Mining Congress as it is November 1, 1919. With its motive force originating in the national body of The American Mining Congress, through its Board of Directors, and its results terminating in benefits to the entire mining industry, this chart has been so arranged as to show each person responsible for particular phases of the work, and the duties with which he is charged.

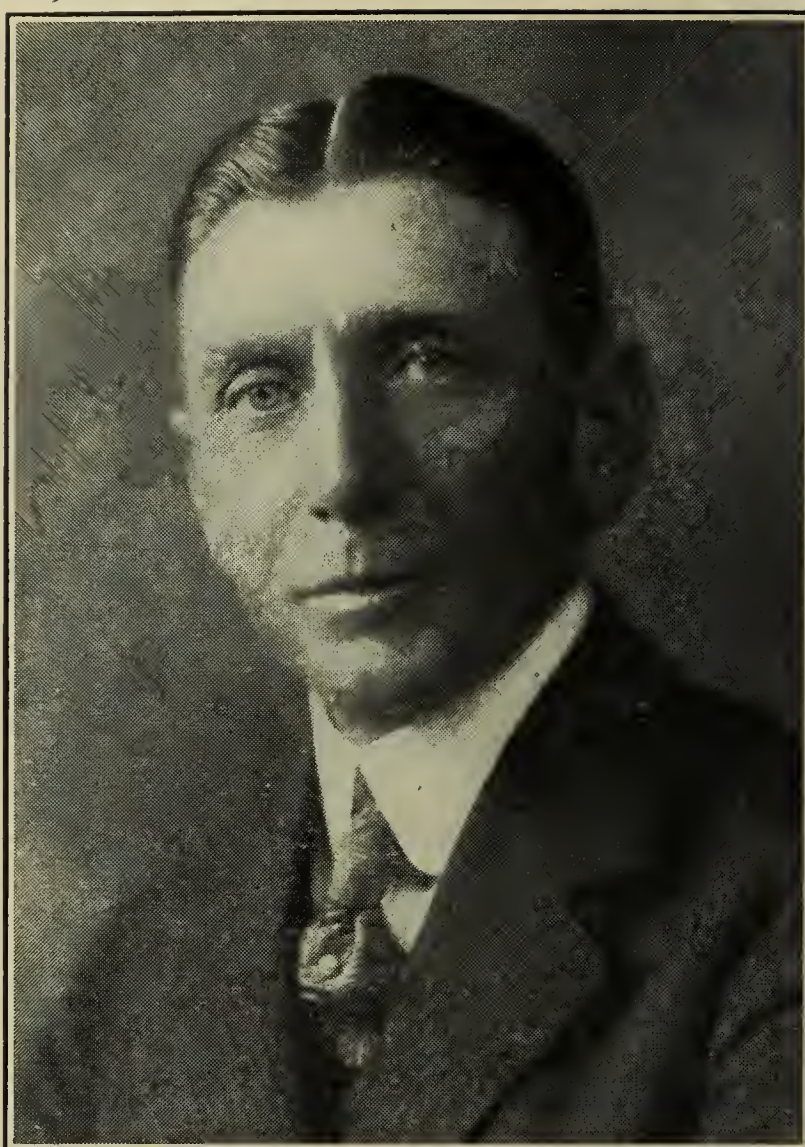
It is hoped that the entire membership of the Organization will be interested in the results as shown by these detailed charts, and particularly, in the substantial progress that has been made toward the completed plan of the enlarged Organization.



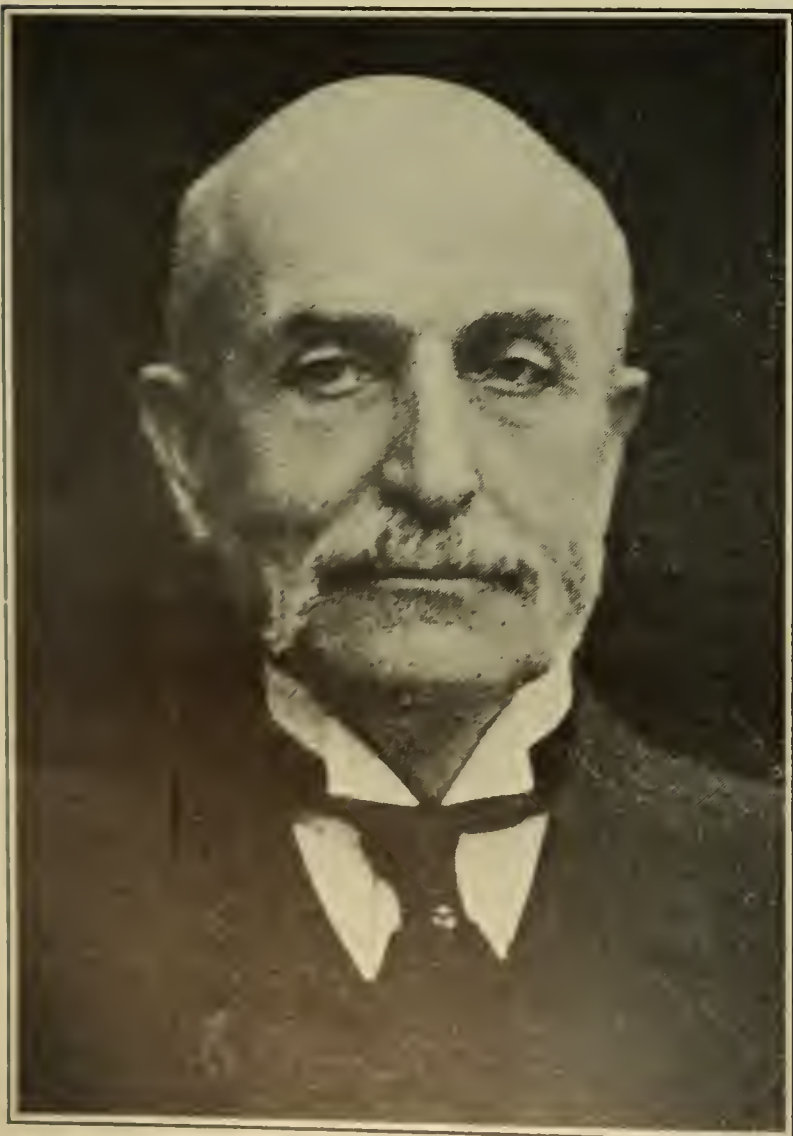




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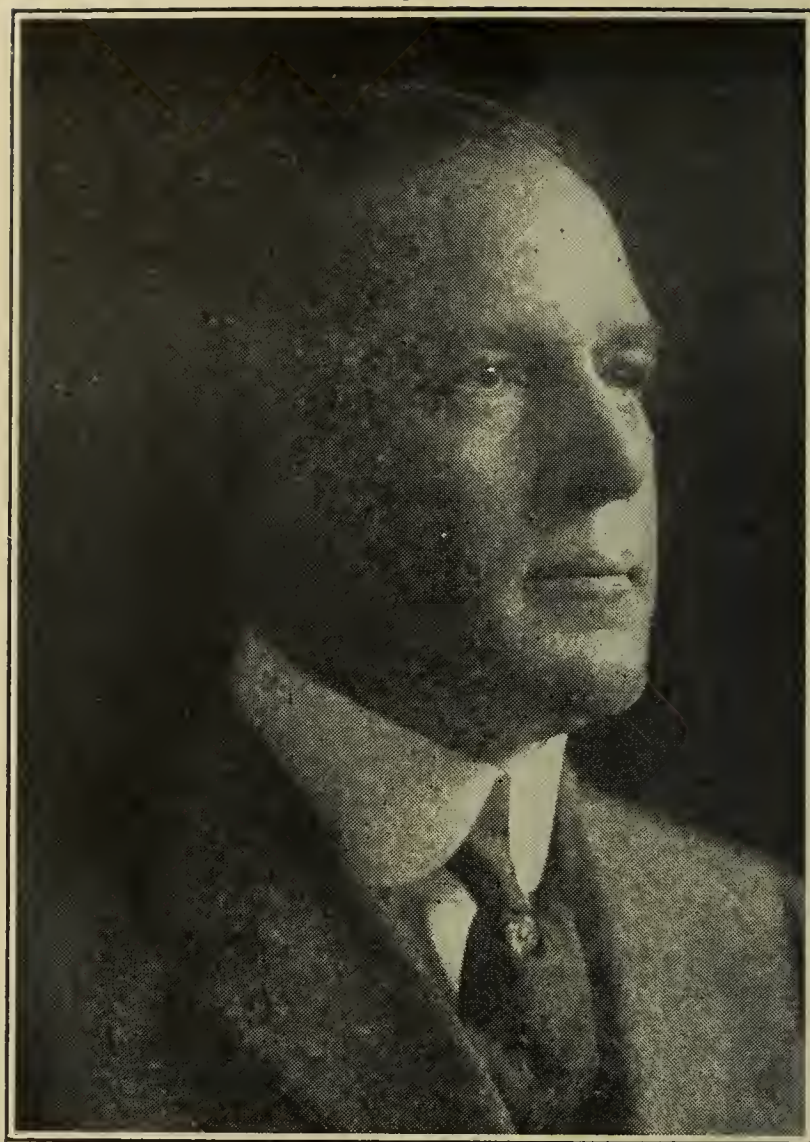
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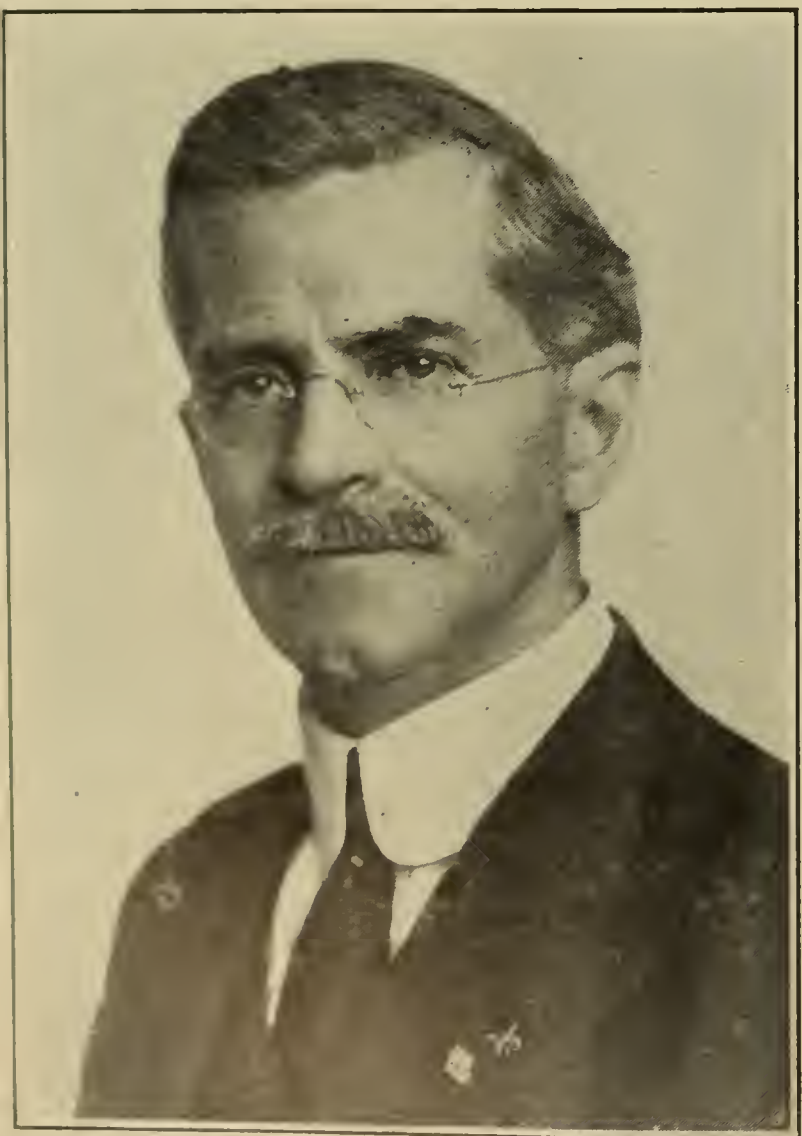
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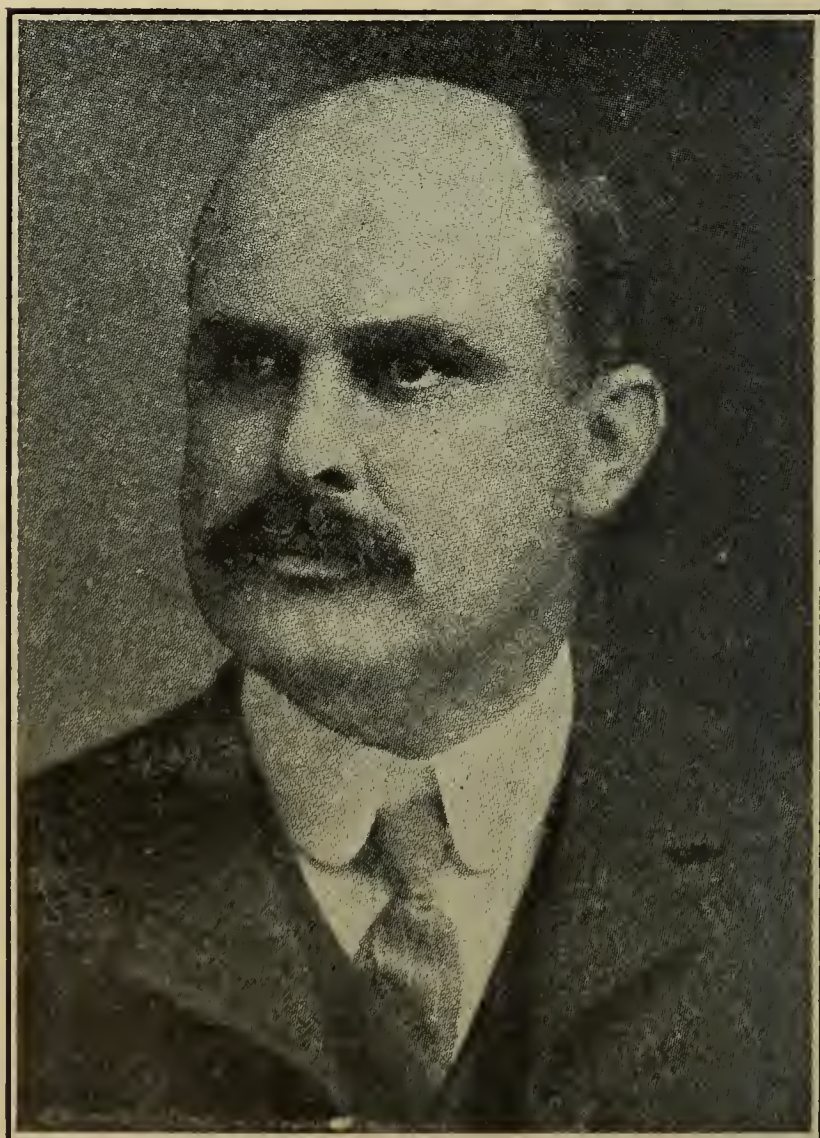
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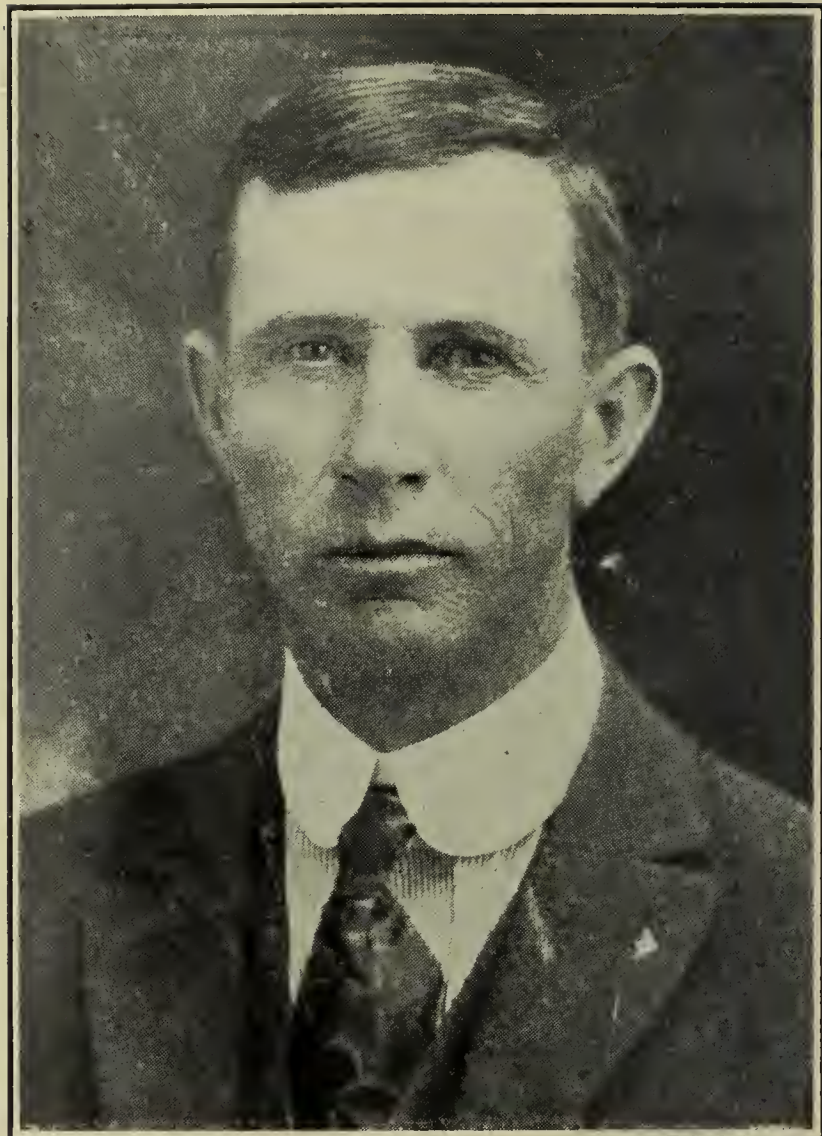
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Economist



HERBERT WILSON SMITH
Chief, War Minerals Division



A. G. MACKENZIE
Secretary Utah Chapter



J. E. CURRY
Secretary Arizona Chapter



PAUL WOOTON
News Editor, Mining Congress Journal



E. R. COOMBES
Assistant to Secretary
and Business Manager, Mining Congress Journal

than five years would not be a satisfactory basis upon which to invest large sums of money in the development of new ore reserves. Hence it seems reasonable that five years should be the time period for which the original bonus and excise shall be in effect. It may well be stated that on and after five years from the date of passage, the bonus and excise will be adjusted in accordance with the rise or fall in commodity prices as compared with the average for the five-year period; this readjustment of bonus and excise to be made each year and until such time as the bonus and excise can be abandoned on account of the restoration of a price level which will satisfactorily maintain the normal production of new gold to meet all industrial requirements of the arts and trades.

3. *Agency of Bonus Payment.*—The Treasury Department probably would be the best agency to be stipulated for the payment of the bonus to the producer of newly mined gold.

4. *Manner of Bonus Payment.*—Upon the presentation to the Treasury Department of a statement from the United States Mint, verifying the number of ounces of newly mined gold, and upon the presentation of a statement from some unbiased agency (such as the United States Bureau of Mines), verifying that the gold was actually produced as a result of mining and milling, or smelting, ore, or washing placer gravel, payment of the bonus of \$10 per ounce shall be made to the producer thereof. It is certain that the point will be raised as to the verification of production on the assumption that many producers will attempt to pad their bullion by the introduction of old gold, and it, therefore, becomes necessary to specify some independent agency to serve as a check with reference to the origin of the gold produced. A severe penalty will have to be provided for persons convicted of salting newly produced gold bullion with old gold. This procedure will reduce the possibility of fraud to the minimum, and at the same time insure justice to the producer.

5. *Agency of Excise Collection.*—The Internal Revenue Department probably would be the best agency to be stipulated in the bill for collection of the excise. The manner in which the excise will be collected will have to be worked out in detail. Probably a die stamped by the collector upon the jewelry after the excise has been paid would be a sufficient safeguard. A penalty will have to be provided for persons who do not conform to the excise provisions of the law.

COMMENTS ON THE BONUS AND EXCISE BILL.

This method of attack is the most direct

and provides the most certain and rapid protection for the monetary reserve, by increasing the production of new gold to satisfy the present anticipated trade requirements. A very important point is that it removes the entire subject from monetary entanglements and considerations, since it deals directly with gold as a commodity. Another point in favor of this bill is that the consumer of gold in the arts and trades will be given the opportunity to pay what he should be paying to maintain the industry on a basis to satisfy his own requirements. There should be no objection made by the consumer of gold, as consumers of all other raw materials have been forced to pay in many cases even greater amounts of increase than that specified in this bill.

An important advantage of this proposed bill is that it imposes no unfair burden upon the domestic gold manufacturer, since the foreign manufacturer will have to pay the same excise upon his finished product. It also is uniform in its application to all manufacturers within the trade—the small and the big alike.

In the operation of this bill, it makes no difference whence the gold comes as a basis for manufacture—whether it be from a foreign or domestic source, or whether it be derived from coin or old jewelry. Attention may well be called to the fact that, if the excise were placed on the bullion sold by the mint to the trades, or a certificate of sale issued to the buyers of gold at \$10 per ounce, in addition to the monetary price, there would immediately spring up a speculative market in old gold, and coins would be destroyed wholesale. The provisions of this bill obviate these objections.

The jewelry trade, by installing machinery requiring heavier material to work upon, has, therefore, found it cheaper to substitute gold for labor. Many of the gold producers have found that it has cost more to produce gold than they can obtain for it. These two statements confirm the same fact, but the jeweler probably could not afford to substitute gold for labor so freely if he paid the present cost of its production. This condition is providing a profit to the manufacturer of gold to which he is not legitimately entitled, while the producer of gold sustains a corresponding loss which he cannot continue to bear. In the interests of manufacturer and producer alike, the two sides of this equation must be equalized. It seems only just that the manufacturers and other consumers of gold should pay the cost of production for their raw material, while the producers of gold must receive a sufficient price in order to continue production.

WAR MINERAL TARIFFS

BY HERBERT WILSON SMITH

The policy of this organization toward tariff problems is well known. The American Mining Congress is not a political organization. It favors neither free trade nor a protective tariff.

But when the needs of this country for certain mineral products are made so woefully apparent, as they were during the world war, this organization must adopt a policy that will permit the American miner to fill these needs from our abundant reserves of natural resources. An urgent appeal to produce would get no answer, since our last war minerals experiment. It would fall on ears too deafened by disastrous losses. These mineral industries must not die. They must have a form of protection that will make them and the nation independent. A plan must be adopted that will put the miner of war minerals on a permanent, self-sustaining basis and on a competitive level with cheap foreign labor, and put him in position to buy his supplies and equipment in our present protected market.

The miner takes the raw earth, and from it produces a mineral and an article of commerce. This, to the miner, is his finished product. It may be the raw material for many other enterprises, just as, in turn, the finished product of these other enterprises becomes the raw material of still further advanced stages of manufacture. The logical solution for this problem of the miners is a tariff which will protect him, and in protecting the miner, a tariff is being levied to protect his finished product.

So this question of tariff on raw materials in the form of natural resources of a diminishing character is not, after all, the revolutionary policy it might at first appear to be. It is the protection of the finished products of an industry that is more vital to the needs of this country in time of war than any other one factor. It is not the purpose of this legislation to protect any mineral industry which will not, by means of that very protection, be in position to be self-sustaining within a very few years. The development of these little explored ore reserves, and the installation of methods to be made possible on a permanent production basis, will introduce such economies that the tariff asked for in every case can be gradually removed, and the production in this country ultimately get on such a basis of internal competition that the resulting price to the consumer will be lowered.

The three questions which arise in seeking a justification for any tariff on war minerals are these:

1. The extent of our reserves.

2. The difference in labor cost between this country and competitive countries.

3. The effect on associated industries.

The estimates of ore reserves, which must form the basis for our calculations, come, in part, from the most accurate official source that we have at our command—the Geological Survey. The work of the survey is accurate, but conservative. In tabulations of actual production, in both existing and past conditions, its statistics must be unquestioned, but, in estimating ore reserves, two things must be taken into account: First, the method of securing these statistics, and, second, the constantly increasing reserves opened up by exploration and development.

Known districts of production are examined by the engineers of the survey and estimates made, but the vast undeveloped regions which are waiting for the hardy prospector and adventurous miner are not considered. There is no question but that, in 1900, the Geological Survey would have told us that there were not 100 tons of tungsten ore in the United States—yet this country has shown that it is capable of producing annually over 4,000 tons. We can all remember when northern Michigan and the Montana district were considered the country's only sources of copper in large commercial quantities. The statistics which have been compiled on every mineral have shown, conclusively, that the known reserves have increased, in each case, more rapidly than the depletion.

The idea of conservation of natural resources has a distinct popular appeal, particularly effective in the more crowded, settled eastern districts, where people could have no conception of the enormous amount of development which is necessary in our western states, and in all parts of our country where natural resources are abundant, to bring prosperity to these new countries.

The feeling that we were depleting our resources faster than we were justified became widespread. Every person who proposed conservation of any character was hailed as a prophet. We find these ultra-conservationists suggesting that, with such tariff protection, the supply of these resources will rapidly be depleted. They would, in short, have us set on our eggs until they are addled. It is a well-known principle of economics that, as the demand for a particular article increases, and the price advances, articles in substitution for it come into use, which are oftentimes superior in their properties to the original article of commerce. This is equally true of mineral resources. Within the last few

years, we have witnessed the increasing use of dolomite for refractory purposes when other refractories were temporarily scarce. In the early days of the human race, it is more than possible that prehistoric races wondered what they would do when all the water in the Dead Sea dried up.

Statements based on the theory that the development of such industry means depletion of these resources to an extent which becomes alarming, have been made. Extreme conservationists are likely to take the stand that all such mineral deposits should lie undeveloped until the urgent necessity for their use in the time of emergency arises. Guy C. Kiddell, engineer and metallurgist, of the Tariff Commission, sums up the absurdity of this in a statement:

"This is simply the conservation of inertia. That an entirely undeveloped natural resource in the time of a national emergency is as useless as an entirely depleted one is evident, and between the two we must find a medium."

A consistent use of our natural resources and the development of metallurgical practice springing out of this use is the only true way to industrial progress.

The protection of American labor, by tariff, is a recognized principle of the industrial development of this country, and we are applying it to the mineral industry. All labor costs abroad are unquestionably lower than our own. There is not an instance of foreign mineral production where the labor cost is not far below a living wage scale for American labor. From the coolie of China and Burma, the convict of New Caledonia, and the peon of Brazil, the American working man must be protected, and the only way in which his wage scale can be protected is by protecting the industry in which he works.

It has been feared by producers of war minerals, who want this form of protection for their industry, that stages of manufacture, which use these war minerals in their manufacturing processes, would object to such protection. These fears have been justified, but, while the strength of this opposition and its significance should not be underestimated, at the same time, the position that these industries take is inconsistent. This inconsistency has been recognized, and it is doubtful if the selfish interests of one branch of industry will be finally permitted to weigh against true national protection. Mr. Joseph W. Fordney, chairman of the Ways and Means Committee, in the hearings on graphite, September 27, when the protection for this industry was vigorously opposed by the interests manufacturing graphite, said: "I have little patience with any branch of an industry which has built up its prosperity

through a protective tariff, and which is now enjoying that protection, when it comes before this body to protest against a similar protection being accorded to another branch of the same industry, which will perish without it."

The mining industry as a whole and the producers of war minerals in particular, are interested mainly in results. In the discussion of questions of this kind, it is natural for the people who are trying to achieve these results to discuss rather the problems which must be solved before the results can be achieved. The economic problems arising from a tariff issue, which steps the principle of protection one further stage lower down in the process of production and manufacture, brings up many intricate economic issues—issues which must be solved in justice and equity to all interests involved. In this discussion, these problems have been mentioned not to show the difficulties which are in our way, but to show the constructive work we must do to achieve what we want.

The concrete results of the tariff fight so far are substantial and encouraging. Bills providing tariff protection for thirteen war minerals have been introduced. Of these, tungsten, magnesite and zinc have already passed the House, and are now before the Senate Finance Committee. The Ways and Means Committee of the House has held hearings on graphite and potash, both of which industries made splendid showings and received distinctly encouraging expressions of opinion from this committee. Neither of these bills has yet been reported to the House. A complete digest of the action and present status of each of these war mineral tariff bills appears in the legislative status sheets of this number of the journal.

A great deal of capital has been made by the opponents to this necessary legislation of the quoted statement of Senator Penrose, in which he was said to refer to such bills as "popgun legislation." The facts are that a statement of the Senator, which was intended to show the grave importance of questions of international politics which are pending before the Senate, and the serious consideration which must be given these problems first, was so purposely misconstrued and misquoted as to make his attitude appear to be distinctly and permanently opposed to these vital measures. This in no way reflects the real attitude of the leader of the Senate Finance Committee, nor the spirit in which he is approaching our internal problems. Senator Penrose recognizes the vital issues at stake in the protection of war industries.

These questions of tariff on war minerals are not political issues—they are not

restricted legislation to benefit certain districts. They constitute protection in its truest form—actual national integrity built up through becoming self-sustaining in our vital, war-essential industries. The whole history of the war minerals situation is enough to show even the casual reader that no mining operator could be induced to enter mineral production for war purposes again during a period of emergency. He must have instead an opportunity to build up his business on a substantial, permanent basis through protection.

Congressman Longworth struck the keynote of the attitude that the country is ultimately to take toward the protection of war minerals in the hearing on magnesite before the Ways and Means Committee, when certain American companies, owning deposits of magnesite in Austria, were protesting against this tariff because of the effect it would have on their business. Mr. Longworth said as between two American interests equally able to produce the same thing, the industry which can supply this country, both in times of war and in times of peace, should be protected as against the industry which can only supply us in times of peace.

And when the time comes that this country needs its war mineral industries, operating to their highest capacity, neither statistics, theories nor promises will avail us anything. We must have established production. The only way we can have it is to have these industries permanent, and the only way they can begin to be permanent is to have the protection of a tariff.

UTAH CHAPTER ACTIVITIES

By A. G. MACKENZIE

The Utah Chapter's chief activities in 1919 have been to assist in meeting the problems which confronted the industry in Utah immediately after the cessation of hostilities in Europe.

These problems were many and pressing. Market conditions have been bad and operating costs have remained at high levels. Several important producers have been idle for a considerable portion of the year and others have curtailed operations heavily.

Wages were reduced slightly in February. This action was followed by an inquiry into local mining and living costs, which brought only slight relief and disclosed that conditions could probably not be materially or permanently relieved through local action. The war-time wage scale was restored in July and is still in effect.

Despite the favorable silver market, which enabled many properties to continue operations profitably, the total production has fallen off greatly. Dividends for the first nine months of the year show a decrease of 44.6 per cent as compared

with the same period of 1918, and the comparison will probably hold good for the entire year.

The mines of the state are in good shape to take advantage of improvement in metal markets. Most of the companies have done development and repair work that had to be more or less neglected during the war, and have put their properties in good physical shape for future operations. Important new ore bodies have been disclosed in some of the well-known mines, and several other properties are expected to enter the list of regular shippers in the next few months.

There was only one labor disturbance of consequences, a strike instigated by the I. W. W. at Park City. The Park City operators resolutely refused to recognize or confer with the I. W. W. element or its leaders and closed down all properties in the camp on May 6. Persistent efforts of the I. W. W. leaders to extend the disturbance to other camps failed. The better elements among the Park City miners took control of the situation finally and declared the strike off on June 21. Operations were resumed immediately and have been continuous ever since.

The Chapter assisted local claimants under the War Minerals Relief Act to prepare their cases for presentation and continued its practice of conveying useful information to its members through circulars and meetings.

Vermont Talc Production Increases

The talc and soapstone deposits of Vermont have been worked more or less continuously for nearly 100 years, but all of the early efforts seem to have been directed toward the production of slabs for foot-warmers and other similar uses. Although soapstone of good quality occurs at several places, much of the material first utilized was really talc and was not massive enough to be cut successfully. The grinding to talc in Vermont seems to have commenced in about 1902 and has shown continuous growth since that time. Statistics compiled by the Geological Survey in Mineral Resources of the United States show that the production of talc in Vermont has increased from 8,978 short tons valued at \$65,525 in 1905 to 93,960 short tons valued at \$625,150 in 1917. Until 1917 New York was the leading producer in both tonnage and value, with Vermont second, but in 1917 Vermont took the lead in tonnage produced, although not in value, with a production of over 47 per cent of the total tonnage produced in the United States and over 35 per cent of the world's production. This increase in production will probably be continued, though possibly at a decreased rate, for the reserves of talc in Vermont are large.

THE CHROMITE INDUSTRY

By E. A. DICKEY

Secretary of the Pacific Coast Chrome Producers Association

Before the war, practically all of the chromite consumed in the United States—some 150,000 tons annually—was imported from foreign countries, and principally from New Caledonia, an island east of Australia, and Rhodesia, a province of Africa. Deposits of a marketable grade of chromite in the United States have been known for some years. Such deposits had been discovered in the serpentine belts of California and Oregon. Serpentine is one of the latest eruptive rocks and is intimately associated geologically with many of the

favorably located, the best deposits could not have been mined and their product marketed on account of the cheap labor conditions prevailing in these foreign countries—in fact, most of the labor in New Caledonia and Rhodesia is slave labor.

In the absence of a protective tariff, all of these conditions combined to prohibit the development of a domestic chromite industry until the commencement of the war, when the inability of the Government, for lack of ship tonnage, to carry the ore from these foreign countries forced it to appeal to the American prospector and miner to fill its requirements. The patriotic response of these men, who not only discovered mines and located concentrating plants to produce the ore necessary to completely satisfy the domestic requirements, but also built the trails and roads which enabled the ore to be hauled in some instances as far as 40 miles to the railroad, is something we may well be proud of. And this result was achieved within a few months, which shows not only the completeness, but also the spontaneity of their response to the Government's appeal. What citizen would not have come to the rescue of his country in so great a crisis, when it was officially presented that a ship could carry 3 tons of supplies to our boys at the front, while the same ship could bring but one ton of chromite from New Caledonia or Rhodesia.

So general and successful was the response of the prospectors all over the nation that other important deposits of merchantable ore were opened up in Wyoming and Alaska. Upon tidewater in southeastern Alaska, a concentrating plant was erected with a capacity of 35 tons of high-grade concentrates per day, while other extensive development disclosed large tonnages of high-grade ore in place. During the fall of 1917 and the summer of 1918, about twenty concentrating plants were erected in California alone and several in Oregon, in connection with the operation of lower-grade chromite deposits. The concentrating process as applied to chromite is the very simple gravity water method. A high degree of concentrating efficiency is secured because of the heavy weight of the grains of chromite as compared to the usually light density of the gangue.

Under the pressure of war emergencies, the chromite industry had, therefore, gained an excellent foothold as a growing industry of the United States, until the armistice was signed and ship bottoms were available to bring in the slave-mined



E. A. DICKEY

Secretary, Pacific Coast Chrome Producers' Association

most productive gold veins in northern California and southern Oregon. The prospector, since the gold rush in the fifties, has been combing these serpentine areas to discover gold quartz veins, and quite naturally could not have escaped also discovering many of the high-grade chrome deposits which outcrop on the surface. Many of these deposits were remotely situated from railroad transportation; other deposits were too low grade to compete with foreign-produced ore without preliminary concentration; and even where

ore of these foreign countries. This abrupt break in the market occurred at a time when extensive tonnages of merchantable ore had already been mined and were ready to ship; since then the entire domestic industry has been shut down.

Such is the position of the chromite industry, from which condition it will not emerge unless a tariff is allowed sufficient to offset the inequalities of slave labor of these foreign countries and our own free labor. It is a matter of negligible concern to the public at large as to whether these original producers of chromite are allowed to continue operations or not, unless it can be shown that it is in the broad public interest. History records the fact that this country was at a great disadvantage because we had relied upon foreign sources of production for chromite and had not developed our own natural resources. Are we now to allow history to repeat itself, for who can predict when the necessity may again arise that we should have a large volume of domestic production on hand and ready for use? It is evident that these long-water hauls from New Caledonia and Rhodesia are subject to serious strategic danger from naval blockade.

That chromite is indispensable to the conduct of war is emphasized by the important manner in which it enters the manufacture of war products. For instance, chromite brick, or the raw ore, is made into linings for steel furnaces, which have an annual output of some 36,000,000 tons of steel. On account of the heat-resistant qualities of chromite linings, the furnace output of steel is greater than when any other substitute is used. This means that, under the pressure of war output, there is no satisfactory substitute, and that, in the development of our domestic industry during peace conditions, nothing but the most efficient materials would be economically used.

Another important use of chromite is in the manufacture of ferro-chrome, a product which, added in small quantities to steel, produces an alloy very much harder and therefore more useful for many special purposes. Leather is a very important product in the manufacture of shoes and harness used in the carrying on of war, and it must be properly tanned. In order to accomplish this result, there is no substitute for potassium bichromate. This chemical is produced synthetically by using the chromic oxide which is derived from the mineral chromite. It is more commonly known that from chromite is produced the chrome color used in the manufacture of paints and dyes. These, of course, were used extensively in combinations to produce the desirable camou-

flage to protect our gun and ammunition positions from enemy detection.

After reviewing these many war uses of chromite, it will also be discovered that these same uses coincide with the demands of our peace-time industry and domestic requirements for steel and leather, dyes and paints. In other words, the domestic market for chromite since the cessation of hostilities will be as great, if not greater, due to the expansion of the automobile industry, which absorbs many of the finished products into which chromite enters as a fundamental element.

In the light of all these facts, it would seem advisable as a matter of national importance to consider very carefully placing a tariff upon chromite and its finished products, such as will insure the normal development of a domestic industry. It would be desirable that such a tariff should not be so high as to exclude some of the high-grade ore from foreign countries, in which event the tariff would then become a source of revenue. On the other hand, such a tariff would have to be high enough to permit the development of our ore deposits, so as to make it attractive to the capital invested and to insure the interest also of metallurgists in perfecting concentrating systems by which the most satisfactory results may be obtained. American inventive genius has, in the past, been accountable for a large part of our entire industrial expansion. It may safely be predicted, therefore, that with this assistance for a brief number of years, our domestic chromite industry would have reached the point where it could, by virtue of the improvements made in mining and metallurgical treatment, compete even with the slave labor of these foreign countries. At such a time, the tariff might well be repealed and the industry, now in its infant stage, set upon its way to take care of itself and become a ready asset of war and meanwhile an asset of peace and national prosperity.

Denmark Furnishes Ships for Coal

As a result of a statement by the Shipping Board's Division of Operations, in which it was shown that Europe, despite its dire need for coal, was diverting its own tonnage to the more profitable trade routes, leaving to America the job of carrying the less profitable coal cargoes to Europe, the Danish Legation announced that sixteen steamships, aggregating 61,000 tons, are to be immediately placed in the coal trade and will carry coal from this country to Denmark.

This prompt response of Denmark has been very gratifying to the Shipping Board, as the assignment of this large fleet will greatly aid the board in caring for European fuel needs.

GRAPHITE

By A. B. CONKLIN

Graphite belongs to the mineral family and until recently has been practically unknown to the average person. Its importance, however, as a war necessity has recently given it greater publicity in the United States. It is a carbon product, sometimes called plumbago or black lead.



A. B. CONKLIN

Chairman Graphite Section, Alabama Chapter,
American Mining Congress

There are several varieties of graphite which can be classified under three different heads, crystalline flake, a flaky formation; crystalline vein, of a fibrous nature; and the amorphous, a powdered or very fine grained variety. The values of graphite are usually determined by its carbon contents and structure.

Its uses are the manufacture of crucibles, foundry facings, lubricants, lead pencils, paint, stove polish and various other minor uses. Their ranking importance are in about the order as listed, crucibles requiring about 45 per cent of the total consumption.

Up until recent years the world's greatest known supply of graphite was in Austria and Ceylon. A large part of the Austrian product was of the amorphous variety, which left with England the control, through Ceylon, of all

the better crucible grades. Recent war emergencies have caused to be developed graphite resources heretofore unknown to the average mineralogist. The graphite resources of the United States were rapidly developed, as was the case in all other "key" war necessities, as soon as the Government's influence was extended in the effort to establish our independence in them. Rapid strides had been made up until 1918, and with the serious condition of our shipping at that time the government authorities undertook more positive measures to protect our needs of the war minerals. Secretary Franklin K. Lane, of the Interior Department, expressed the position of the Administration on graphite when he appeared before the Mines and Mining Committee of the House in the interest of the War Minerals and Metals bill hearings on March 25 last year. He said:

"There are minerals of many kinds that are in small deposits that are needed in small quantities that we import—some of them not in such small quantities, either—such as graphite. That we have in the southwest; that we now bring from India. Why should we not develop our own graphite. And what are we asking, gentlemen? We are asking simply that you place in the hands of some person the ability to say to a man, 'If you have got something that the United States wants we will give you assurance that your industry will be so stabilized during this war that you will be able to get your money back.'"

The result of the Administration's influence in this measure was the final passage, on October 5 last year, of H. R. 11259. This bill appropriated \$50,000,000 as a revolving fund to purchase and resell, for the purpose of stabilizing the market, forty-two of the so-called "war minerals," which included graphite. As soon as this government influence for stimulating our graphite production became known new life and effort were again evidenced as a result of such a powerful force. What ordinarily would have been considered unwise expenditures in experimental development were made to offset the undreamed-of advance in labor and other production costs and to increase the output as near to the maximum capacity as possible.

The patriotic zeal prevailing in the southern graphite districts was a wonderful tribute to the citizenship of a reunited country. The Government's strong arm claimed all for draft without any exceptions for preferential vocational. The ranks of our labor, constantly being broken by these calls, were cheerfully refilled, but at great expense. Liberty loans were supported universally. The great sacrifices occasioned by the war were loyally assumed, many

times causing denials and hardships that cannot be realized by those not acquainted with the social conditions of that district.

The response of those from all sections of the United States who contributed to the graphite development was proof of their patriotic intentions, but through failure on the part of the Government to afford the promised market, the investments have proven most unfortunate to hundreds who accepted the Washington inducements in good faith.

Production capacities were increased from negligible amounts to fully one-half our normal requirements, and the possibility of increasing our production to meet all our needs was clearly proven, thus realizing, in graphite, the Washington slogan of "our independence in this war necessity."

At the time the war started the methods of refining graphite in this country were crude, and many experiments and changes have been made to increase the amount recovered and to improve the grade of the finished product. It is not difficult now to attain a very high grade of refinement; in fact, the grade our domestic producers furnish now for crucible manufacture will average higher in carbon content than the average grade of the imported material.

The Government's activities in the interest of higher standards of refinement and more uniformity of grade met with hearty approval from the producers, who have, through their association, established specifications for their members which required methods of sampling in small parcels, that assured standards of uniformity impossible to secure in the haphazard methods formally employed by the small number of producers before the war.

The keen discernment of the English statesmen in controlling the higher grades of crucible graphite was fully appreciated, in the early stages of the war, when we were dependent upon them for graphite. They placed restrictions upon our manufacturers of graphite products that prevented them from exporting out of the United States without first obtaining English consent, even if domestic graphite were used in the articles to be exported. This same control has been again secured by the English even after the extensive deposits were discovered in Madagascar. The Madagascar product being of a flaky formation, similar to our domestic graphite, required changes of practice with the crucible makers of England, who adopted it in place of the fibrous grade they had previously used from Ceylon, and they have, through the Morgan Crucible Interests of London, secured concessions from the French government on the Island of Madagascar that leaves them still in control of this vital commodity.

The results in government research work with our domestic clays and graphite for crucible manufacture have developed possibilities of superior crucibles where our domestic clays and graphite are used exclusively

than were formerly obtained with the Ceylon graphite and the German clay.

The history of the magic development of our graphite resources, as with most all other war minerals, is indelibly impressed upon the minds of those who contributed to it. Their hopes were given a shock by the effects immediately following the signing of the armistice, but when the mineral bill was announced as non-operative through the failure to appoint an administrator before the armistice was signed, by the action of the war boards in removing the import restrictions and consumption requirements on January 16, which were promised to continue until July 1, 1919, the last hope was apparently betrayed.

Immediately following this last action of the war boards, large accumulations of foreign material sought immediate entry into our country free of all restrictions of duty. It was produced by some of the cheapest foreign labor, which placed our industry and the labor involved in it in direct competition with the 7 to 20 cents a day scale of the Ceylon and Madagascar coolie. This was quite a contrast to the Government's encouragement and commitments as voiced by Secretary Lane when he said, "Gentlemen, go further in and find what you have; bring it out and we will see that you are not ruined by the competition of foreign countries. I think that is good Americanism; I think it is common sense."

Contrast this situation with the attitude of the English government in the interest of their war necessities following the close of hostilities. In the October 2, 1919, "Commerce Reports" of our country, Secretary Redfield furnishes the following information concerning the English trade policy for "protection of unstable 'key' industries": "To prohibit the import except on license and on payment of a license fee of the products of key industries which are in unstable position in the country—unstable industries for this purpose:

"(a) That the product is essential for war or for the maintenance of the country during war.

"(b) That the industry had been so neglected before the war that there is an inadequate supply of the product.

"(c) That the industry is one for the fostering and promotion of which the Government found it necessary to take special steps during the war.

"(d) That if special government support were withdrawn the industry could not maintain itself at the level of production essential to the national life."

Graphite operators in the United States began vigorously to press their claims for justice in Congress, and on June 16 last Hon. J. Thomas Heflin of Alabama introduced H. R. 5941, a bill providing for protection to the domestic graphite producers. This measure was referred to the Ways and Means Committee of the House, and they held hearings on it on the 26th and 27th of September.

The political phases effecting this measure indicate that it, with all other similar bills affecting "key war necessities," should meet with little opposition. The investments in them were largely dependent upon the inducement of governmental influence both from direct representatives of the Administration and a Democratic Congress, with legislative action effecting them supported by both political parties in Congress. The Democrats are obligated to defend their action on these measures now, and they should receive prompt support from Republican members who are avowed advocates of the protective policy, added to which is the need of conserving a national necessity in war needs, following so soon the serious lesson we have just had of our unpreparedness for such emergencies.

A large part of our present domestic graphite development is in the south, but extensive deposits are found in many eastern, northern and western states and in Alaska, while a large amount of the southern development has been with northern and eastern capital. This condition distributes, to nearly every state in the union, interests that are directly affected by the outcome of this legislation.

In a letter last year of appeal to the graphite producers for increasing their effort, Dr. George Otis Smith, director of the United States Geological Survey, concluded: "The country needs American graphite and the business deserves a living wage."

Classes of Abrasives

Natural abrasives mined in the United States include the following minerals: Emery, corundum, garnet, millstones, grindstones and pulpstones, hones, oilstones and scythestones, quartz and feldspar, diatomaceous (infusorial) earth and tripoli, pumice, grinding pebbles, quartzite or similar material used for tube-mill lining, and grinding and polishing sand. The total production of natural abrasives in 1918 was according to Geological Survey reports, valued at \$2,864,177. The chief producing states are Ohio, New York, Arkansas and North Carolina.

Artificial abrasives may be classed in three groups: (a) Aluminum oxide, (b) silicon carbide, (c) metallic. Those of the first group are made of fused bauxite and are sold under the trade names of alundum, exolon, aloxite and lionite. The silicon carbide group includes carborundum, crystolon, and carbolon. Metallic abrasives are such products as crushed steel, steel shot and steel wool. The total production of artificial abrasives in Canada and the United States in 1917 was valued at over \$8,000,000, or nearly three times the value of natural abrasives produced in the same period. The wide use of artificial abrasives is therefore an important factor for abrasive miners to consider.

CHEMICAL WARFARE SERVICE IN NEED OF ENLISTED MEN

The Secretary of War directs that it is desired to obtain as soon as possible one thousand recruits for the Chemical Warfare Service. Recruiting officers at camps, posts and stations in the United States are authorized to enlist men for this service under the following conditions:

"Only white men will be enlisted. Enlistments may be for a period of one or three years. These men will be enlisted in the infantry and assigned to Chemical Warfare Service. It is desirable, though not essential, that men enlisted for this service have chemical or engineering experience."

Bids for Powder Plant

Bids received by the Director of Sales for the purchase of the United States Government Smokeless Powder plant at Nitro, W. Va., were as follows:

John F. Gilmore, New York.....	\$8,250,000
Houder Electric Chemical Co., New York..	8,200,000
Rignold W. Brad, Washington.....	8,000,000
Harro Bros. & Co., New York and Chicago	7,500,000
Charles Shudgood, New York, N. Y.....	7,000,000
Fred P. Blanchard, Boston, Mass.....	7,000,000
Charleson Industrial Corp., Charleston, W. Va.....	6,300,000
Robert J. Showell, Oregon City, Md.....	6,200,000
John H. Leary, Jr., & Co., Inc., Pittsburgh, Pa.....	6,100,000
Lake Railway Supply Co., Chicago, Ill.....	6,000,000

The above statement shows the total amount bidders by each of the several bidders, but all of the bids contain conditions and stipulations on the part of the bidder which necessitate a careful analysis of same before it can be determined which one is most favorable to the United States or whether any of them can be accepted.

THE ARIZONA CHAPTER

That the cost of living warranted an increase in wages though the market price of copper governing wages did not, was a matter decided by Arizona mine operators on July 21 in Tucson.

For several years miners' wages in the mining camps of Arizona have been based upon a sliding scale regulated entirely by the average price of copper for the month, according to the Engineering and Mining Journal quotations, which method under almost any condition that might arise promised a satisfactory settlement of the wage question. The continued increase, however, in the necessities of workmen and the decline in the price obtained for copper made it very necessary that an adjustment be reached, if possible, in such manner that would bring some relief to the

miner, shifting, if necessary, a greater burden to the producer.

The sliding scale to which the employer and employe have adhered should, in the opinion of the operators, be continued and, in view of the continued high cost of living, the mine operators of Arizona would pay employes in accordance with present sliding scale, at a price of 24 cents for copper (market price of the metal at the time being 22 cents) with the understanding that should the price of copper go above 24 cents wages would be increased in accordance with the sliding scale.

The present demand for good miners and mechanics is greater than the supply. The mechanic has followed the lure of the oil fields, shipyards and other industries than copper mining that have been a constant drain upon the resources of skilled workmen in the copper districts. The miner who has accumulated enough from his savings to carry him while prospecting is no longer content with days' pay with the price of silver above \$1 the ounce. He has dropped his work in the copper mines and has hopefully engaged in the undertaking of discovering a silver vein or to open up his claims long remaining idle from the necessity of a profitable silver market. Silver mines that have not operated for many years are being unwatered and re-timbered preparatory to mining the chutes of ore known to exist when the low price of silver forced the mines to close down. Many young men who drew regular earnings at the pay windows remain in the Army. Unskilled labor is plentiful, and the floater is as common as ever, but the class of labor required for efficiency in operating and to bring copper production up to normal is scarce.

In view of the fact that Governor Campbell withdrew convict labor from work on the roads several months ago in order that this work should be available for returned soldiers, and in view of there appearing to be other work for all the returned soldiers, and that every mining camp in the state is more or less short of competent labor, the Arizona Chapter, American Mining Congress, considered it to the interest of the state to bring this condition to the attention of the governor, asking his favorable consideration of the matter of reestablishing convict road camps. To this request Governor Campbell replied that, beginning about the first of this month, convict road camps had been established and that it would be his policy to use this class of labor from now on wherever possible.

The San Francisco Freight Traffic Committee, at the instance of the California Oil Producers, met in San Francisco, September 4, and proposed an increase in rates on fuel oil from Texas points to

Arizona points, no notice of which had been sent to the Arizona Corporation Commission nor to Arizona consumers. To this a vigorous protest was launched a week later by fuel oil consumers of Arizona. A meeting of consumers of fuel oil was held in Tucson, the Arizona Oil Consumers Association was formed, and an organized effort put forth to defeat the proposed advance in freight rates, the intent and purpose of which quite evidently was to prevent Texas oil from coming into Arizona territory in free competition with California oil.

The Arizona Oil Consumers Association enlisted the friendly assistance of the Arizona Corporation Commission, which directed one of the commissioners to appear in person before the Railroad Commission of Austin, Tex., whose chairman, when the matter had been presented to him, on behalf of the fuel oil producers of Texas, addressed a communication to Hon. Max Thelan, Director, Division of Public Service, U. S. R. R. Administration, expressing the hope that, until full opportunity had been given those interested to present their case, no change in the rate be made at this time that would increase the burden upon shippers from Texas. The result thus far has been that the matter is indefinitely postponed, and it is expected that no hearing will be had and the question dropped.

Though not altogether immune, Arizona has suffered very little from the epidemic of strikes prevalent in a great many other states.

A strike in the gold mines in Mohave County occurred through the demands of the I. W. W. for a six-hour work day at \$6 per day and abolition of all contract and bonus systems. The Western Federation of Miners Union was opposed to this strike, but a sufficient number of its members attending the I. W. W. meeting and voting with the I. W. W. for a strike, the companies decided a close-down would be necessary as they would have no conferences with the I. W. W. nor recognize them in any way nor have any dealings with them whatsoever. Numerous guards were placed about the properties and the works closed down. An exodus of wobblies immediately took place.

Confident the companies would resume work when a sufficient number of the right class of men should present themselves for work to permit satisfactory operations of the properties, a nucleus of loyal men remained. After a three-weeks shut-down, the mines resumed operations with the atmosphere cleared by exposing all those affiliated or in sympathy with the I. W. W., and eliminating that element from the camps. The same wage scale as in copper camps was put into effect.



EDSON S. BASTIN

INTERESTS OF CONSUMERS MUST BE KEPT IN VIEW

By Edson S. Bastin

The American Mining Congress has grown to be a strong champion of the mining interests of the United States. Its growing strength and its national scope entail an increasing obligation to approach the problems in the mining industry from the broad standpoint of national welfare. We must not lose sight of the fact that mining ventures cannot be permanently successful unless they further not only the interests of the mineral producers but also the interests of the mineral consumers who constitute, in fact, the great body of the American people.

Further, the mining interests of the United States transcend our national boundaries and the development by American capital of certain mineral deposits in foreign countries is equally as vital to our national interests as the development of home deposits. The new nationalism should not be provincial.

LIBERALIZATION OF THE WAR MINERALS ACT SHOULD WAIT, SAYS SECRETARY LANE

In regard to liberalizing the war minerals relief act Secretary Lane has advised Congress as follows:

"This Joint Resolution proposes to widen the interpretation of the terms 'request' or 'demand,' which now governs the ruling of the War Minerals Relief Commission, under the opinion of the Attorney General.

"The resolution proposes to give relief to those claimants, who, in response to any published request or demand from any of the governmental agencies mentioned in said act, in good faith, expended money in producing or preparing to produce, any of the ores or minerals named therein, in their usual or requisite commercial form, and provides that, in the event said appropriation is not sufficient to liquidate all claims allowed, in accordance therewith, such claims shall be paid a pro rata share of the appropriation provided in said act; that fifty per centum of the amount of any adjudicated claim shall, without prejudice, be paid immediately after adjudication.

"It occurs to me that possibly the most satisfactory way to treat this matter would be to wait until the work of the commission has progressed to a point where we can have definite information as to the claims rejected and the amounts to be paid under the existing law. If the matter were to be thrown wide open and all claims considered, including requests for losses incurred through published requests, the appropriation of \$8,500,000 would not cover the awards, so that all must necessarily be sealed. On the other hand, if the commission be permitted to complete this work, under the present law, it appears that a substantial amount will remain unused. By that time we shall have a knowledge of the situation which will perhaps enable Congress to establish a more liberal rule of award than that now existing, under which many of the claims now ruled out can receive attention.

"Up to this time the War Minerals Relief Commission has held hearings in 401 cases and has passed upon 347 claims out of 1,206 filed. If all the claims in which no direct request was made must be examined as to facts and questions involved, it will prolong the work of the commission very much and consequently delay the determination in those cases where a direct request or demand was made.

"For these reasons, I do not think it wise to pass this resolution until further knowledge of the situation has developed."

GENERAL MINERAL LEASING BILL PASSES HOUSE AND GOES TO CONFERENCE

With only 39 votes cast against it, the Oil Land Leasing Bill passed the House on October 30. The bill already had passed the Senate and it now goes to conference. The House reduced the percentage of the licensing fund, which goes to the state. The Senate bill divides the fund, 45 per cent to the state, 45 per cent to the reclamation fund, and 10 per cent to the federal treasury. As amended by the House, 70 per cent of the fund accumulated from past operations goes to the reclamation fund, 20 per cent to the state, and 10 per cent to the federal treasury. On future operations, the reclamation fund is to receive 60 per cent, the state 30 per cent, and the federal treasury 10 per cent.

In reporting out the bill, the House committee said, in part:

"In striking out the text of the Senate bill and inserting in lieu thereof a new draft your committee is pursuing the same method adopted by it in reporting the same measure during the Sixty-fifth Congress. While the general features of the Senate bill and of your committee draft are largely identical, the House committee substitute carries many material changes which are in harmony with the previous action taken by the House on this subject matter. For instance, the Senate bill, in providing for leases of the various mineral deposits in the public domain, prescribed a maximum as well as a minimum royalty, while your committee's substitute follows previous House bills in fixing only a minimum royalty, leaving to competitive bidding or to the discretion of the Secretary of the Interior the determination of the maximum royalty.

"The Senate bill carries two new subject matters which heretofore have not been considered in the previous conservation measures, namely: A provision in section 1 thereof prohibiting alien stock ownership in any corporation acquiring a lease under the act, and sections 40 and 41 thereof, directed against joint-stock ownership under certain conditions in corporations engaged in producing or refining petroleum. Your committee, in its draft, has changed the text of the Senate clause relating to alien ownership. The House amendment to this clause seeks to avoid retaliatory action against American investors in foreign countries and provides that no citizen of any foreign country shall, by stock ownership, stock holdings, or stock control, own any interest in any lease acquired under the provisions of this act where such foreign country, by its laws,

customs, or regulations, denies similar or like privileges to citizens or corporations of this country. The main argument for the Senate draft was that foreign control of domestic corporations operating a lease under the act would result in large exportations of oil, coal, and other minerals covered by the act, and thereby deplete the domestic supply. Under the House reciprocal clause above mentioned it is obvious that the citizens of the United States could largely offset such a result by their own operations in foreign countries, or, if an acute situation ever developed, a general embargo against exportation would be a sufficient remedy.

"It was shown in the House hearings that sections 40 and 41 of the Senate act above referred to were added to the Senate bill in the form of a rider, by amendment on the floor of the Senate, without consideration by the Senate Committee on Public Lands. The hearings on these sections had before your committee developed the fact that the subject matter was one of great complexity and of far-reaching consequences. Section 40 of the Senate bill in effect seeks to modify the decree of dissolution made by the Supreme Court of the United States in breaking up the Standard Oil Co. of New Jersey. This decree was made in pursuance of proceedings brought to dissolve this alleged monopolistic combination. The effect of section 40 would be in large degree to undo the proceedings of dissolution and substantially to reassemble the dissolved units into single control.

"Section 41 was admitted by its author to be subject to manipulation. It provides, in substance, that corporations engaged in producing or refining petroleum shall maintain the same price for their products where the stockholders of any one of such corporations own or control 25 per cent or more of the stock of any other of such corporations. The section is loosely drawn and might be capable of great abuse. The hearings had on the subject emphasize to your committee the viciousness of rider legislation and demonstrated the fact that a subject matter of such large consequence should not be considered in connection with the present bill, which concerns the disposition of mineral deposits in the public lands. Your committee therefore determined that it should not be called upon to consider such a large question, especially in view of the fact that the same subject matter embraced in sections 40 and 41 is now under consideration by the Ju-

diciary Committee of the House as amendments to the Clayton Act, where recommendations of the Federal Trade Commission somewhat at variance with the text of sections 40 and 41 have been made.

"Upon the urgent request of the Secretary of War and the Secretary of the Navy, your committee added in section 1 of the House draft a provision reserving to the United States all deposits of helium in the public land, and in section 38 of the committee draft provided further that the United States Government shall have the preferential right to obtain, extract, and remove helium from all lands and all deposits leased under the act under such rules and regulations as shall be prescribed by the Secretary of the Interior. The representations of the War and Navy Departments were to the effect that from helium deposits was manufactured inflammable helium gas for use in Army balloons and dirigibles and that control by the United States was desirable and necessary for war emergencies.

"The House is familiar with the fact that conservation measures providing for the disposition of mineral deposits in the public lands have already passed the House three times within the last six years and have twice passed the Senate. In the Sixty-fifth Congress the measure passed both Houses and the conference report was adopted by the House, but was not acted on in the Senate by reason of delays during the closing hours of its session. The general purpose of all these acts has been the same, namely, to provide an enlightened method for the disposition of such mineral deposits.

"The disposition of public coal deposits is now regulated by an act which is admittedly inoperative. It provides for sale of coal deposits and for passing fee-simple title to the purchaser. Deposits of oil and gas are now subject practically to unlimited appropriation under the placer-mining laws. The basic theory of all past conservation measures has been a leasing system of a limited area on a payment of a royalty to the Government, thus reserving to the Government an owner's or lessee's interest in the property and reserving to it the right to prescribe rules and regulations against wasteful practices. Heretofore such measures have secured to the prospector a certain amount of his claim by way of patent in fee as a reward for the risk and expense in making discovery.

"The present Senate bill, as well as the House draft above referred to, has advanced the conservation theory to the extent that no mineral deposits or lands containing the same, covered by the act, shall be granted in fee to any applicant, except as to valid claims referred to in section

37, but in all cases the same shall be held under lease from the Government upon designated royalties. As to oil and gas, one-quarter of the claim is leased to the prospector upon a reduced royalty as a reward for the expense and labor involved in discovery.

"We have therefore reached the point where all remaining mineral deposits in the public lands covered by the act are retained in government ownership, subject to lease to qualified applicants upon payment of royalty, which royalty, aside from that fixed for the one-quarter interest to be allotted to the prospector on account of discovery, cannot be reduced below the minimum designated, and may be fixed at a high figure by competition or at the discretion of the Secretary of the Interior."

HARE RESIGNS—MORSE BECOMES DIRECTOR OF WAR DEPT'S SALES

C. W. Hare, owing to an indisposition which prevents his personal participation in business activities, has resigned as Assistant Director, Munitions, and Director of Sales. His resignation was accepted October 22 and E. C. Morse, who since the organization of the Office of the Director of Sales has filled the position of First Assistant Director, was appointed Director of Sales, effective October 22. Mr. Morse assumed active direction of the Office of the Director of Sales when Mr. Hare sailed for Europe in July. During the latter period of the war with Germany he was engaged in the supervision of purchases made by the Construction Division of the War Department.

Auditing of War Mineral Relief Claims

The work of auditing war mineral claims is in the hands of nine very efficient accountants selected by C. B. Holmes, chief accountant, not only for their accounting ability, but for their ability to examine into the merits of claims, and to report facts enabling the commission to make awards. The men in the field are having difficulty in substantiating the expenditures claimed, due to the fact that a very small percentage of claimants kept proper books of account and the work is therefore slow; however, at this time 175 claims have been reported on by field auditors, these reports having been examined by Mr. Holmes and a report of his findings made to the chief engineer.

COAL EXPORTATION

BY GEORGE S. RICE

Chief Mining Engineer, Bureau of Mines

The question of coal exportation from the United States to Europe was brought home to prominent American producers and exporters at the International Trade Conference held at Atlantic City, October 22, 23, 24, France, Belgium, and Italy having representative committees on coal. These committees represented private industry and not the respective governments.

There appeared to be a prevailing sentiment that as soon as possible it would be desirable that various governments would release their respective industries from the regulations necessitated by the war. In the case of France, however, it was pointed out that control was still essential since they were receiving coal from their own producers, from Belgium, England, and the United States at widely variant prices, so that to treat all fairly the government was obliged to assume distribution of the coal and the fixing of prices, but it is hoped that they will be relieved of these conditions in six or eight months.

The French Committee pointed out that they were now getting no coal from the Westphalian mines, although under the terms of the Treaty of Peace they were to receive 20,000,000 tons for compensation of the mines destroyed by the Germans in the north of France, and 7,000,000 tons additional, the amount imported from Germany prior to the war. At the present time there was a coal shortage at the rate of 22,000,000 tons annually, and while England was expecting to supply some imports, owing to its own curtailments by reason of shortening the hours of labor of its miners, it was unable to furnish it. France looked to America to supply at least 10,000,000 tons. The French Committee indicated that they considered that there was opportunity for a permanent export coal business from the United States to France.

The Belgians stated that their mines were now up to within nearly 90 per cent of pre-war production and were shipping about 40,000 tons of steam coal to Italy, but they were badly in need of coking coal. This, prior to the war, they had obtained from Westphalia and from England, but as France had the first call on the coal from Westphalia it might be difficult for a long time to obtain their proper supply of coking coal from Westphalia, although that was the most natural source. Therefore they would have to depend for the present either on England or the United States for coking coal to supplement their old requirements. Belgium produced, in 1913, 3,186,000 tons, imported 1,119,000, and exported practically the same amount, 1,128,000 tons. Most of the coal mined in Belgium

is low volatile and does not make good coking coal, hence the need of importation of several million tons of coking coal. It would seem possible to an outsider that, since Belgium had a surplus of steam coal, it might be traded for coking coal from Great Britain rather than attempt to import from the United States.

The Italian Committee laid emphasis on the fact that they were almost entirely dependent on imports of coal and estimated that they would require 12,000,000 tons. They hope to get one-half of this from England, but could not look for more, and for the balance they were looking to the United States. They complained, as did France, of the excessively high ocean transport rates, and it was generally thought that as more ships became available these rates might fall.

In the matter of extensive exports of coal to the European countries, the question arose of proper credits, but the sentiment was optimistic that suitable arrangements could be made.

It was pointed out by the American producers that a very large amount of money had to be advanced in comparison with the profit on the coal. That is, if the coal were sold at say \$3.50 at the mine, the railroad freight to the tidewater had to be advanced and also the ocean freight and insurance charges, so that the producer had to not only pay the costs of mining the coal, but also from \$25 to \$30 to cover freight and insurance charges before he received payment, and his profit on a ton of coal bore a very small ratio to the total amount which he was compelled to advance together with the risk of heavy demurrages.

Magnesite Long Taken for Marble

Spathic magnesite is the term often used to designate those carbonates of magnesium which are free from iron carbonate, or contain less than 5 per cent of this constituent. It may greatly resemble crystalline limestone and dolomite, and sometimes only very careful tests can differentiate magnesite from these two latter rocks. Washington magnesite doubtless was long taken for marble or crystalline limestone as the term "marble quarries" applied to the different deposits indicates. This is also true of Canadian deposits. Dolomite often has a dull appearance on fresh fracture somewhat resembling that of chert, and it also has a very characteristic mode of weathering. These characteristics enable one, with a little experience, to differentiate it with considerable success from true magnesite.

NEW ASSESSMENT BILL**PASSES HOUSE PROMPTLY**

With only two votes against it, the House on November 1 passed the Assessment Bill, relieving all mines of assessment work for the calendar year 1919.

Van H. Manning, director of the Bureau of Mines, made the following recommendation to the committee:

"The subject of annual assessment work upon mining claims, as affected by existing laws, particularly public resolution No. 10, approved August 15, 1919, has been quite fully discussed by others, and I only desire to say that in my opinion the situation is such as to warrant further action by Congress.

"As has been pointed out, the limitation contained in public resolution No. 10, granting relief from performing the annual assessment work on not more than five claims to any one claimant, seems to be variously interpreted by lawyers, and by those interested in mining, especially in its application to fractional interests in mining claims. This difference of opinion which has given rise to uncertainty as to the exact meaning of the language, coupled with the fact that it is a matter which will ultimately have to be construed in the many courts having jurisdiction over mining cases, it is likely to lead to much litigation. This of itself seems to me sufficient to warrant the action proposed in House Joint Resolution 241.

"Then, as to soldiers, it would seem that the provisions of the special act applicable to the performance of annual assessment work on mining claims owned by them, which was suspended during the war and until six months after the discharge of the soldier from the service, would require soldiers discharged prior to July 1, 1919, to perform the annual labor this year upon their claims unless further legislation is enacted.

"The prevailing high prices, the difficulty of procuring labor, the lateness of the season, and other reasons which might be mentioned justify relief action by Congress, in my judgment. I am therefore of the opinion that some legislation should be enacted, general in its scope and clear in its meaning, relieving all mining claims in the United States and Alaska from the requirement of performance of annual assessment work thereupon for the year 1919."

Representative Garland, of Pennsylvania, chairman of the Committee on Mines and Mining, made the following statement on the floor of the House:

"Joint Resolution No. 241 provides for the suspension of assessment work on mining claims for the year 1919, and it is for the purpose of correcting House Joint

Resolution No. 150, now Public No. 10, that was passed and approved on August 15. That resolution at that time was for the purpose of suspending the work on mining claims also, but in it was with the provision that any claimant could get the benefit of a suspension on five claims. Now that was construed in a number of different ways and did not give the claimant what was intended by the passage of the resolution at that time under the construction made by the Interior Department, and as a consequence there has been a good deal of discussion and a great deal of difficulty over it out of which will grow a great deal of litigation for people who purchased claims who were not absolved from the suspension work by the mistaken idea, and those who hold the claims will suffer from it. In addition to that, it is found that the bill passed some time ago which provided that soldiers and sailors should have exemption for six months from making their assessment work on claims after they were discharged from the service, that a good many soldiers and sailors were discharged prior to June 30, 1919, and as a consequence all of them would be required to do their assessment work on their claims this year before the 1st of January and they have not returned to their homes. The conditions out in the northwest states, as we know here from the relief given to parties who held homestead entries out there, are very bad, and the people have left the community very largely; a great drought has occurred for three years, and as a consequence there is no one there to do this assessment work, and those who are there engage in other work that is necessary and which they cannot get away from. In addition to that snow has occurred in those northwestern mountains out in those states where these claims are, and the weather is such that it is impossible for men to go in there and do claim work. This does not take any money out of the Treasury of the United States. It simply absolves these claimants from doing the work that is required for this year and no longer, and the committee are unanimous in asking that this resolution be passed."

Copper Imports Show Increase

The total imports of copper for July amounted to 34,849,924 pounds and for August 26,907,540 pounds, while the exports amounted to 46,544,916 pounds in July and 52,685,781 pounds in August. This indicates a marked improvement, the exports for August being almost twice the amount of imports. In these figures are not included copper in manufactured shapes or brass.

PROPOSED FEDERAL**"BLUE-SKY" LAW**

Statement of James F. Callbreath, Secretary, The American Mining Congress, before the Committee on the Judiciary, House of Representatives

Gentlemen of the Committee: There has been no legislation, introduced into the present session of Congress that I have opposed with more regret than Mr. Taylor's bill, known as the Federal Stock Publicity Act, but I oppose it with as much vigor as reluctance.

The position of the mining industry toward any legislation which will limit the activities of dishonest promoters is most friendly.

That a remedy for existing evils in the promotion of unworthy enterprises is necessary, is most apparent. It is protection that legitimate mining operations particularly need, but we should not let this great need force us to snatch at the first remedy that is offered regardless of its merits, and, more particularly, regardless of its perils.

The importance of mining, as a national industry, is shown by the fact that the products of mines and allied industries furnish more than two-thirds of the gross tonnage of all freight handled in this country. It must be remembered that mining and its allied enterprises are extremely hazardous. The average of profitable investments of this nature is about one out of twenty, but when such profits come, they are large enough to wipe out the previous losses.

This is not due to illegitimate promoting or overoptimistic expectations, or to any conditions which can be corrected by legal enactment. It is due to the fact that mining and allied enterprises are essentially different from manufacturing industries. A large amount of money must be expended before the possibility of a return of profit can even be estimated. Under such a bill as the one proposed, the securing of capital by legitimate means for such development would be impossible, because the investor would have a civil action on every share of stock which showed him a loss.

It should not be the function of legislation to paralyze legitimate business while it hunts for rascals, yet this is very patently what could happen if this proposed bill becomes a law.

True, the framers of the bill have testified before your committee that such is not the object of the bill, and that the bill, when construed as a law, would not be construed against legitimate business enterprise. But

our statute books are full of laws which have been interpreted differently from the way in which their framers intended them; interpreted in ways that have resulted in violation of true business principles, personal rights, and moral standards.

I need not refer to such existing statutes which have worked such injustices.

You are all, as attorneys, familiar with legislation which was not even remotely intended by its authors to function in the way it has, but the language was there which permitted, in many cases, the throttling of legitimate enterprise.

The authors of any of these bills would have told the committee hearing them that these results were not intended, but, unfortunately, the authors of legislation are not the ones who interpret it when it has become law.

Our attitude as an organization cannot be better than by referring to the report of our Denver convention in 1906, at which the Pardee law was first proposed. This law makes a misstatement, in the attempted sale of securities, a misdemeanor before any element of damage has accorded to the complainant. This principle has been embodied in the laws of eight states, through the efforts and cooperation of this organization. Our efforts, in short, are to prevent fraud, but not to paralyze business.

There is no question that the motives which have actuated this bill are worthy and that its authors are fired with a true zeal to protect the uninformed, too credulous, investor, but in protecting a group which admittedly has not the business intelligence to protect itself, a bill has been framed which, by a strict interpretation of its provisions and amendments, could cancel every collateral loan, paralyze every investment banker, and close every stock exchange in this country overnight.

The alarming trend of our national legislation toward too great paternalism in our form of government is well shown in this proposed legislation. Daily new laws are proposed which vest greater and greater powers in the government, and less and less discretion in the individual. This basic tendency is wrong, and when it is applied to as important a piece of legislation as one that will abrogate the statute of frauds, it is time we call a halt, take stock of our situation, and decide how much intelligence a human is going to be permitted to have and to exercise in the conduct of his own affairs. In this statement I refer as much to the investor himself as to the promoter of legitimate enterprise, the dealer in legitimate securities and the responsible banker.

If any legislation is to be proposed and passed which will fundamentally alter the law as based on the statute of frauds and

the doctrine of caveat emptor, it should surely not be so broadly phrased as to make every sale of stock a perpetual lien against the seller in behalf of the buyer.

For, by the provisions of this act, even though the seller of stock has complied with every provision of this new law, has conducted an exhaustive investigation and filed a certified statement with the proper authorities on all points of information about the company in which the stock is issued, at any time thereafter that the buyer of stock has reason to believe, or suspect, that any of these statements was untrue, and he has suffered a loss thereby, he has a right of civil action against the seller of the stock, regardless of the honesty of the seller. There could be no completed sale of any share of stock of any company because, as soon as this stock showed the buyer a loss, he could immediately rush into court with an action against the seller of the stock.

A bank holding stock as collateral for a loan could not offer the stock for sale until it, in turn, had filed an exhaustive statement of original, first-hand information which it had every reason to know to be true concerning the affairs of the company. Four men could not get together, under the direction of one of their number, and organize a company for mutual profit without the active organizer being civilly liable for every cent of loss suffered by any of his associates.

We do not, all of us, drop our daily business to pursue lawbreakers. We have proper departments of our Government for that purpose. It should not be the purpose of any new legislation to force all legitimate business to suspend and join in the extermination of the lawless promoter, harmful as his activities may be.

The curbing and punishment of such lawbreakers should be handled by agencies and laws already in force, and our Government should not be forced into a position of such great paternalism that no sale of securities in a company can ever become a completed transaction. Business must go on.

REDFIELD BLAMES LABOR FOR HIGH LIVING COSTS

"Labor is responsible for a large part of the industrial chaos in the United States and is the only agency which can quickly reduce the cost of living. Labor has, by its conduct since the armistice, lost heavily in public esteem and can regain public confidence only by an energetic campaign of production."

This is the analysis of existing economic conditions in the United States given by Secretary of Commerce Redfield on the eve of his retirement from the Cabinet. In addressing members of the National Press

Club at a luncheon tendered him, the Secretary declared that the employing side has shown every evidence of a desire to aid in stabilizing conditions, but has not had the necessary cooperation from labor. He pointed out that there has not been an instance in any industry where a general decrease in wages has been effected or even attempted. Employers have kept wages up and have even very materially increased them since the armistice. But in this period when it was of vital importance for the United States to produce heavily to meet its own needs and those of Europe, labor failed to cooperate. In the Secretary's opinion such actions as these on the part of labor—notably the Boston police strike—have cost organized labor much prestige and have made the task of reconstruction infinitely more difficult.

"The laboring men of this country constitute the only group which can reduce the cost of living," the Secretary said. "If organized labor, through the agencies of its various organizations, would resolve to increase production to the limit of its ability and let the American people know of this determination, the cost of living would decrease this week. If manufacturers knew that in the next six months, next year, and from now on they could count on big output, they would begin scaling down prices immediately. The magnitude of output, through the forces of competition, would bring prices lower and lower until the cost of living would be on a normal plane. But with men striking, laying off on vacation, cutting down hours and, on top of this, demanding higher wages, production is greatly restricted and it is necessary for manufacturers to place higher and higher prices on their goods to cover their overhead. Small production means big overhead; large production means low overhead, distributed over extensive output. The problem of the high cost of living is overhead. Because American industry is highly and efficiently organized with intricate and marvelous machinery, this makes it possible, with cooperation of labor, to cut this overhead to a minimum if the machinery but be kept in motion. Therefore the burden of making the cost of living low or high rests on labor and its willingness or unwillingness to produce."

California Talc Production Doubled

The production of high-grade talc in California is becoming increasingly important, the 1918 production being over twice that of 1917. According to figures from the California State Mining Bureau, the 1917 production of talc and soapstone in California was 5,267 tons, and that of 1918 was 11,760 tons.

COLORADO CHAPTER, THE AMERICAN MINING CONGRESS

The year 1919 marks one of the most active periods in the history of the Colorado Chapter of the American Mining Congress. Working in harmony with the Colorado Metal Mining Association, these two organizations have again demonstrated what mining men can accomplish when working together under well-directed effort.

Commencing with the session of the legislature the first of the year, a drastic stream pollution bill was defeated, which if enacted, would have closed down practically every ore milling plant in the state. Amendments to the Industrial and Compensation Insurance laws which would have disastrously affected the operation of metal mines, as well as greatly increased the cost of accident insurance, was defeated by the solid opposition of mining representatives with such other support as could be enlisted by the organization. A vicious Blue Sky Law was defeated and other legislation harmful to the industry prevented.

Early in the year, Colorado tungsten producers were organized and cooperating with California producers prepared complete data and a comprehensive brief to lay before Congress in support of tariff legislation, to protect United States producer against ores of cheap labor countries. This organization rendered invaluable assistance in securing the passage of a tariff bill by the House, and will be a powerful factor in urging its enactment by the Senate.

Late in April the organization was advised that the Railway Administration had issued an order to take effect upon publication, cancelling all freight rates on ore or concentrates based on "Agreed," "Released" or "Declared" valuation. A notice was immediately sent out to Colorado shippers suggesting that they enter a protest against the cancellation of these rates, and that they request that a hearing be given before the order was made effective. The hearing was arranged and upon the showing made by shippers a suspension of the order was granted.

Upon the closing down of the Denver smelter in May, ore shippers in the northern districts were confronted with the necessity of shipping their product to Pueblo and to meet an increase in freight rates on account of the longer haul, that in many instances would mean disaster to the producer. Upon application to the Denver District Freight Committee, a hearing was granted and as a result, a readjustment of rates was ordered which practically absorbed the Denver-Pueblo rate and fixed a through rate but little in excess of the existing rate.

Upon inquiry from Washington in July, asking for information regarding the attitude of Colorado mining men regarding the suspen-

sion of annual assessment work during 1919, a letter was sent out to claim owners throughout the state advising them to immediately communicate their views to their representatives in Congress. The result showed an overwhelming sentiment in favor of suspension of work this year and in consequence active opposition to the bill in Congress by Colorado Representatives was changed to passive support, and the measure was enacted.

Aside from these major activities, much of lesser importance to the industry was accomplished during the year. So uniformly successful has been the organization in handling the problems confronting the industry that the "mining men's organization" is often cited as an example of what cooperation and well-directed effort will accomplish.

Confronted with the announcement that the Colorado Tax Commission will endeavor to secure the repeal of the present law regarding the taxation of metal mines, and to have enacted in its stead a law which will increase the present rate of taxation several fold, the coming year promises to call upon the best efforts of the organization to prevent the enactment of burdensome taxation laws. Threatened increase in freight rates, and readjustments to meet low grade ore conditions, are other problems which will also require the best thought of the organization the coming year.

Altogether, Colorado mining men look with much satisfaction upon what they have accomplished the past year through organization, and they approach the new year with confidence and a belief that through their national and state organizations, many of the distressing problems now confronting them will, ere another twelve months rolls around, have disappeared.

INTERNATIONAL LABOR CONFERENCE MEETS DESPITE TREATY DELAY

Publication of the following letter from the Hon. William B. Wilson, Secretary of Labor, to the Hon. Robert Lansing, Secretary of State, is authorized by Secretary Wilson:

"In view of the uncertainty as to just when the Peace Treaty will become effective and as to how many nations, if any, will be members of the League of Nations by October 29, the date set for the convening of the International Labor Conference, I beg to announce that the following policy has been determined upon:

"1. The Secretary of Labor, in accordance with the call issued by the President, will open the conference at the time specified in the call and receive the credentials of the delegates if any are there presented.

"2. If, at the date of the opening of the conference, the treaty has become effect-

ive through ratification by the requisite number of powers and a League of Nations is in existence and properly authorized representatives of any members of such league are present at the time of the opening of the conference, the Secretary of Labor will proceed to call such conference to order and to organize it. It will then be within the province and power of the duly qualified representatives then and there present to take such adjournment, if any, as they may deem wise in order that, before proceeding with the agenda, a more complete membership of the league may be secured.

"3. If the treaty has not become effective by October 29, or if it has no qualified representatives of members present, the Government of the United States will adjourn further steps in the organization of the conference until a date when it may be expected that sufficient duly qualified representatives of members can be present so that the organization of the conference may be perfected.

"The foregoing policy is based upon the following considerations:

"There is no provision in the treaty under the authority of which any government, or any body of representatives of any government, can postpone the conference or authorize its convocation other than in the month of October. If the conference is not convened in October it cannot be convened at all without an amendment to the treaty.

"Under the treaty, the conference has complete power to determine its own mode of procedure. If, therefore, there are any duly qualified members of the conference present when it is convened they have unquestionable authority to provide for such adjournment as they may deem advisable. Under ordinary parliamentary procedure less than a quorum may adjourn a meeting from time to time until a quorum is present.

"Under the treaty, the Government of the United States is given authority not only to make arrangements for convening, but also for the organization of the conference. The conference has been duly called for a date within the month of October. The power to organize the conference impliedly and necessarily carries with it the power to hold the conference open until such later date as it may be possible to fully organize it. While the power to convene ends with the convocation of the conference, which must under the treaty take place in October, the power to organize is a continuing power which is not specifically limited in the treaty and necessarily must last on until such time as the conference is sufficiently organized with qualified members to be able to take over the direction of its own procedure."

PETROLEUM PRODUCTION

CONTINUES TO INCREASE

The following summary of the quantity of crude petroleum produced and marketed, consumed, imported, exported, and held in storage in the United States in August and July, 1919, and August, 1918, for the fields east of California is based upon reports filed with the United States Geological Survey, by pipe-line, marketing, and refining companies. Statistics relating to California and to imports and exports were compiled from secondary sources.

The quantity of crude petroleum run from wells and producers' field storage tanks and delivered to pipe lines, marketing companies, refineries, and other consumers in the United States in August, 1919, amounted to approximately 33,986,000 barrels, an increase of 465,000 barrels, or 1.4 per cent, compared with July, 1919, the preceding record month, and of 3,341,000 barrels, or about 11 per cent, compared with August, 1918. The increased production for August came from the Central and North Texas, California, Gulf Coast, and North Louisiana fields, offsetting declines in the Appalachian, Lima-Indiana, Illinois, Rocky Mountain, and Oklahoma-Kansas fields. The estimated total production from January 1 to August 31, 1919, amounts to 244,187,000 barrels, as compared with 234,522,000 barrels for the same months in 1918, an increase of about 4 per cent.

It is estimated that 37,837,000 barrels of domestic crude petroleum were delivered in August, 1919, to refineries and other consumers of crude oil and used for the manufacture of petroleum products and for fuel or exported. This quantity is greater by 10,412,000 barrels, or nearly 38 per cent, than the quantity so delivered or consumed in July, 1919.

The surface reserve of domestic crude petroleum held on August 31, 1919, by pipe lines and marketing companies and by refineries that receive oil directly from the wells was approximately 137,891,000 barrels, a decrease of 3,651,000 barrels, or about 3 per cent, compared with the quantity on hand July 31, 1919. The decrease was chiefly in the Mid-Continent field. Compared with stocks on January 1, 1919, the reserves on August 31, 1919, show an increase of 9,580,000 barrels, or about 7 per cent.

Italy Largest Pig Iron Customer

Italy is still the largest importer of pig iron from this country. The lifting of import restrictions has kindled new interest in Italy's markets for American iron and steel products. Germany is the gravest competitor, particularly in steel rails.

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HINES SHOWS RESULTS
OF PLENTIFUL CAR SUPPLY

Walker D. Hines, director general of railroads, authorizes the following:
"During the first six months of this year an abnormally small amount of bituminous coal had been mined and transported because of the lack of demand. The demand began to improve in June and July. Slight car shortages for the movement of bituminous coal began to become evident in June and became more pronounced about July 15. In a statement sent to the Senate under date of August 14, in response to a Senate resolution, I said that I did not anticipate any shortages in transportation which would be in any sense exceptional or abnormal or which would justify oppressive prices for coal. On September 4 I appeared before a subcommittee of the Interstate Commerce Committee of the Senate investigating the coal

problem and stated that the Railroad Administration would be able to transport the necessary coal and that the Railroad Administration proposed to adopt whatever expedients were necessary to accomplish that purpose. I called attention to the fact that while the highest production that had ever been made in a week was 13,000,000 tons, the highest that had been averaged for any considerable period of weeks was something over 11,000,000 tons.

"Up to September not exceeding 10,000,000 tons of bituminous coal had been transported per week. The Railroad Administration early in September instructed that the railroads endeavor to provide transportation for 11,000,000 tons per week. The result has been as follows:

Week ended.	Tons.
September 13.....	11,046,000
September 20.....	11,253,000
September 27.....	11,613,000
October 4.....	11,518,000
October 11.....	11,881,000
October 18 (estimated).....	11,784,000
October 25 (estimated).....	12,900,000

"On Thursday, October 16, or two weeks ago, I had a meeting with the regional directors covering the western territory, and the same day the coal situation was taken up with the regional directors of the territory in the East and South, and as a result instructions were immediately issued under which railroads serving coal mines were to make preferential efforts to furnish mines with empty coal cars up to the ability of the mines to load daily, and noncoal loading railroads should commence immediately to deliver daily to their nearest coal loading or coal route connections empty coal cars up to the maximum ability of such connections to receive such cars. Instructions were also issued the same day to the effect that open top cars should be immediately withdrawn from noncoal service in numbers sufficient to permit placements at mines and deliveries to coal loading connections as required; also that consignees not unloading coal within twenty-four hours after cars were placed for unloading should have no additional cars placed for unloading.

"The result of these arrangements is indicated by the estimated increased production for the week ending October 25. The indications are that the production and transportation will be at not less than a corresponding rate during the present week."

Russia Has Steel Famine

Russia is reported to be experiencing an iron and steel famine primarily due to the wanton destruction of much machinery. No doubt Germany will make great attempts to capture all of Russias' demand for steel products.

STATEMENT OF HERBERT WILSON SMITH, CHIEF OF THE WAR MINERALS DIVISION, THE AMERICAN MINING CONGRESS, BEFORE THE COMMITTEE ON MINES AND MINING OF THE HOUSE, OCTOBER 22, 1919.

This is a similar situation as was presented to you yesterday in Congressman Hawley's amendment correcting the bill relieving miners from annual assessment work. This resolution is corrective legislation, to make workable an act already passed and to make available a fund already appropriated. It calls neither for new legislation or new appropriations.

The Secretary has asked us to wait. A plan could be arranged, as suggested by the Secretary, whereby such claims as are now disallowed, and which could be considered under a different construction of the bill as originally passed, could come up for consideration after other claims already under consideration had been passed upon. This would make the work of the commission easier, but there is no just reason for not considering any particular group of claims arbitrarily, simply to make more easy the work of the commission. All claims, which were filed prior to June 2, are entitled to equal consideration, and the fact that a later decision on this important question of what constitutes request or demand would facilitate the work of the commission, does not help the valid claimants who are affected by this decision.

The original War Minerals Bill passed the House April 30, 1918, and passed the Senate, September 11. The changes made in the Senate were adopted in the House, September 25. This bill was approved by the President, October 5, but because of differences of opinion as to whether the bill should be administered by the Interior Department or the War Industries Board, no selection was made until the morning of the day on which the armistice was signed. Even then the appointment of Secretary Lane was not made public until a week thereafter. This bill appropriated \$50,000,000 for the development of more than twenty minerals, absolutely vital to the industries of the nation on a war-time basis. The powers given the President and the Government under this bill were drastic to the point of being confiscatory. Members of different bureaus gave wide publicity to the provisions of this bill long before it passed the House, using it as a basis for encouraging mineral production. The statement was officially made in July, 1918, that the War Industries Board had the power to confiscate mines and equipment if necessary. Production on a mam-

moth scale was begun under such stimulus. The Government got the minerals it wanted, but at the cost of many millions of dollars to the miners of the United States. Congress recognized the Government's keen obligation to these miners by adding the War Minerals Amendment to the Dent Bill, which was passed in February, 1919. These losses all occurred prior to November, 1918. It is now October, 1919. A year has lapsed since these losses were incurred; eight months have lapsed since the bill was passed appropriating \$8,500,000 to the relief of these distressed miners.

Has the Government's obligation been discharged in the manner in which Congress intended it to be done?

The record of the commission, up to and including Saturday, October 18, shows 380 cases disposed of; 365 claims which are totally disallowed under the decision of the Attorney General; the remaining fifteen of these are awards for portions of amounts claimed for, and not all of these have been accepted by the claimants.

This statement is made, not to reflect on the work of the commission, nor even on the reply of the Secretary of the Interior concerning the commission's work, which Mr. Garland has just read you, but to correct an impression that might be given by the Secretary's statement—that 350 cases have been settled and disposed of—which might indicate that that number of claimants have been satisfied and paid off.

From a close following of the work of the War Minerals Relief Commission, from the time of its organization in March, until today, the following digest of its decisions and procedure, on each vital point of the act as passed, is reasonably accurate.

The commission, in protecting itself, in its own activities, has naturally construed every portion of the law most strictly; but this strict construction has invariably consisted in limitations, and in permitting absolutely nothing to enter which can be shut out by the letter of the law, and in doing so, have been placed the following constructions on detailed portions of the act:

Line 1: The words "Secretary of the Interior" have been held to empower the Secretary of the Interior to appoint a commission, which makes recommendations to him of awards to be made.

The body of this commission is made up briefly as follows:

Three commissioners (owing to the recent illness and death of Dr. Foster, only two commissioners are now active. Another is to be appointed, however.)

A chief engineer, under whom are a chief accountant and a chief field engineer; under whom are, respectively, field accountants and field engineers.

These field engineers examine the proper-

ties and the accountants verify the records and statements of loss. The results of their investigations are submitted to an examining board, which makes confidential reports to the commission. The commissioners make a recommendation for an award to the Secretary of the Interior, a copy of which is mailed to the claimant, who is allowed twenty days thereafter in which to file a written brief, in case he objects to the recommendation for award. If the recommendation is agreed to, the Secretary of the Interior issues an award as recommended. The attorney for the Interior Department issues an order on the Interior Department Auditor, who, in turn, issues a request on the Treasury for Treasury warrant or check.

Line 2: "Net Losses" have been construed as follows: A claimant must have shown a net loss on his entire war minerals operation. If a claimant owned, or held, an interest in a property of any nature covered by this act, which showed a profit regardless of location, or length of time the business has been in operation, such profit applies as a credit against any losses sustained in any other properties, because of government stimulation, and for which he has filed claim. Only so much will be allowed as is shown to be actual net loss from his entire operation.

Line 4: "Producing" has been construed to mean the actual production, as raw mineral, or one of the ores of the four metals described in the act. Production as a by-product, or production by metallurgical processes, or by intricate milling methods, has not been considered basis for a claim.

"Preparing to produce" has been construed to mean the expenditure entered into after production was found to be possible and profitable. No expense for prospecting, or development of properties up to a point where ore was opened up in marketable quantities, has been allowed.

Line 5: "Compliance" has been construed to mean that the claimant must have altered his plans in accordance with the request or demand of the Government. If a claimant was engaged in production, and received urges and stimulation to continue to produce, and made no change in his plans, it has been decided he has no claim for loss. If a claimant has altered his plans, and so comes within the construction of this provision of the act, the commission decides what percentage of the claimant's activities have been due to government stimulation, and what percentage due to the original plans. He is only allowed such percentage of increased activity as was caused by government stimulation.

The "request or demand" of the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping

Board or the Emergency Fleet Corporation, has been construed by the Attorney General to mean that the claimant must have been asked specifically by one of these five governmental divisions to produce, or prepare to produce, such minerals. The commissioners, in turn, in construing the opinion of the Attorney General, have written letters to claimants in disallowing claims, in which the following statements are made:

"You have no direct request addressed to you by an officer of the Government."

"The Attorney General, in construing the statute on July 1, 1919, held that the request or demand must be personal.

"All claims based on such requests or demands, as are shown by the attached copies, have been ruled out."

Thus three words have been read into the act that do not appear, and were not intended by Congress: The word "specific" has been read in by the Attorney General's decision, and the words "direct" and "personal" by the commission's rendering of the Attorney Generals' decision. These words "personal" and "direct" appear neither in the Attorney General's decision or in the original legislation

Line 23: "Upon property" has been construed to mean that no expenditure in the purchase, and no expenditure in connection with property holdings of any nature, whether by the recording of claims, legal expenses, state fees, or other legal expenditures are allowable. Financing expenses, such as commissions for the sale of stock, stock bonuses for the sale of stock, etc., are not allowed.

Line 36: The words "commercial importance" have been construed to mean that no property which did not continue to produce ore in commercial quantities during the period of the war, can be considered. Any property which produced ore for a period, and was then abandoned, prior to the signing of the armistice, is not considered basis for claim.

A great many claimants have construed the words "commercial importance" in the manner usual in the mining industry, that is, to signify a property which is, or has the potentialities of being, a large outstanding producer in the mining district. It was obvious, in framing this bill, that the words "commercially profitable" could not be used, because, were a property commercially profitable, there could be no claim for loss. So, in choosing a terminology which would cover this situation rather an unfortunate choice is made in the words "commercial importance." There are, for example, in the oil districts of Ohio and Pennsylvania, thousands of small wells owned by individual farmers, which produce five, ten, or twenty barrels of oil

per day. All of these wells are commercially profitable, yet, no one could say of them that they were of commercial importance. Many claimants have put this same construction of these words in making their claims. Such statements by the claimants are being construed strictly against them in the elimination of such claims.

Lines 39-40, "Subsequent to April 6 and prior to November 12, 1918," has been further construed to mean that expenditures falling within that period are further limited by the date of request or demand. For example: If the claimant's expenditures started in July, 1917, and his request and demand by some agent now recognized by the commission was not made until July, 1918, only such losses as he incurred subsequent to July, 1918, are considered. On the other hand, if he made profits prior to July, 1918, these profits must be deducted from such losses that he suffered subsequent to this date.

The last provision of this act that "nothing shall be construed to confer jurisdiction upon any court to entertain a suit against the United States" holds. All procedure connected with these claims comes within the Department of the Interior. The claimant has no right of appeal to the Court of Claims. So, while this was passed as a relief measure, and this provision shows it was entirely intended to be a relief measure, it is being administered in the same manner as a claims board, in which questions of dispute between the claimant and the Government arose and which, in case of unsatisfactory settlement, could be appealed to the Court of Claims.

With this mass of technicalities arising, claimants have been compelled to employ attorneys to get their claims in such shape that they may be considered, because every statement of the claimant is so strictly construed against him. The situation in which a claimant finds himself is briefly this: He appears before a body which constitutes, in its personnel, prosecuting witness, prosecuting attorney, judge and jury, in his particular claim. This body also compiles most of the evidence of record. When this body has rendered its decision on the claimant's case, this decision becomes the authority for the issuance of the award and payment. If the claimant is not satisfied with his award, he is referred back to this same body. Regardless of the sincerity, earnestness of purpose and high ideals that actuate this body, such a situation is dangerous, for, when a claimant appears before what constitutes judge, jury, prosecuting attorney, prosecuting witness, custodian of the funds and court of last appeal, what kind of a presentation can he make of his case? Especially when this body is so hedged about by technicalities that it cannot function equitably. The sheer pressure of such a situation against him is too strong.

The position that claimants have been placed in by these various rulings, could be well illustrated as follows: We will suppose that you are going home some dark night up a dangerous street and you hear loud cries for help. You rush over and, with the other people that have gathered, drive off the robbers that have set upon their unfortunate victim. When the danger is over, the dust is settled, and the air is cleared, the victim rises to his feet, dusts his clothes carefully, adjusts his eyeglasses and says: "Mercy! What a mixed crowd! How did you all happen to get here? Did I write you a letter prior to November 11, 1918, and subsequent to April 6, 1917, asking you to rescue me from these particular robbers at 11.45 on Saturday night on the corner of First and Main Streets? If so, and if you can produce copies of such letter, and I can verify same in my files, I will pay your doctor's bill, providing you have been injured sufficiently to justify you in calling a physician and you can prove that you have been so injured. Your name and address, please. Ah! Thank you. I shall be on my way. However, do not expect me to consider this matter for a year or more, as I am really a very busy man, now that I have escaped from these robbers."

These circular letters and advertisements are the very appeals on which the reasons for the passage of this war minerals relief bill were based. It was very apparently the spirit of this legislation and well established in the mind of Congress that the request and demand of the Government for the production of these war minerals was most general, and that all of these bulletins, advertisements, letters and appeals, issued in every way ingenuity could direct, were but parts of this request and demand.

There is surely no justice in saying to one claimant that because he is fortunate, or hesitant, enough to have written one of the Government's departments in response to one of these direct appeals, asking for more detailed information, and he received, from them, a letter personally directed, which is simply a resume of these bulletins, he is entitled to recovery for his losses, and to say to his neighbor who did not do this, but began to directly expend money for production in response to the appeals he saw on every side, and in response to circular letters from the departments, that, because he was not individually contemplated, he is not entitled to recovery.

If an advertisement from the Interior Department, signed by the Secretary of the Interior, which begins with the words "wanted men" and ends with the words "now is the time to get at it in earnest" does not constitute a request on the part of the Government, it is surely a debatable question whether or not a man, who is under arrest charged with violation of the draft law, has not a valid defense in the statement that he was not per-

sonally, nor individually requested to register for the draft; that he simply heard of a printed advertisement signed by the authority of the Secretary of War—yet this man will go to prison for his failure to comply with the request of the Government, and the unfortunate miner is going through bankruptcy because he did comply with the request of the Government.

The assurances and encouragement of the Government must be viewed in the light of the time at which they were made. When the Shipping Board's bulletin was sent out, saying that no time should be lost in production, and all needful things for the protection of the industry would be done in time, the newspaper headlines read: "Germans hurl fresh divisions against the tired Allies." When Director Manning's advertisement headed "An urgent message from the Bureau of Mines" appeared, urging immediate production of these war minerals, by all possible avenues, the newspaper headlines read: "The Germans' 75-mile gun again fires on Paris." When the Geological Survey letter, stating that there would be a shortage of 585,000 tons of high-grade manganese because of lack of shipping, was sent out, the newspaper headlines read: "German submarines shelling and sinking American ships off our own coasts." Surely it was time, as Secretary Lane stated, in the conclusion of his next urgent advertisement, to "Get at it in earnest"

These things should be accomplished by this proposed amended legislation. The request and demand of the Government should be considered a general request and demand, and each of these bulletins and advertisements should be considered a part of this request and demand. Either the right should be given to claimants to have their final awards reviewed in the Court of Claims, or the cases should be so equitably handled that such review is not needed. And the commission should be again instructed by Congress that this is a relief measure and as such shall be administered liberally and equitably.

HINES OUTLINES PLAN FOR DIVERTING COMMERCIAL COAL

The following is an outline for information of the procedure being followed in the handling of commercial coal diverted in accordance with instructions of the Director General under the authority conferred by the Fuel Administrator:

(1) Bituminous coal, including lignite, taken and held in accordance with the instructions of the Director General of October twenty-ninth and thirty-first, nineteen nineteen, or thereafter, will be handled by the Director General and the Regional Directors through the agency of a Central Coal Committee at Washington and Regional Coal Committee which will be established jointly

by the Regional Directors and the Fuel Administration. Such Regional Coal Committee will comprise the following representatives: one appointed by the United States Fuel Administrator and such others as the Regional Director may select to handle in matters of purchase, distribution and accounting. (2) The bituminous coal held must be distributed only to those consumers who have no reserve supply and must have coal to meet their emergency needs. The following order of preference shall govern the Regional Coal Committee in such distribution as they may make within their jurisdiction for emergency consumption in the United States and Canada: (a) Railroads. (b) Army and Navy, together with other Departments of the Federal Government. (c) State and County Departments and Institutions. (d) Public Utilities. (e) Retail dealers. (f) Manufacturing plants on War Industries Board's preference list. (g) Manufacturing plants not on War Industries Board's preference list. (h) Jobbers. (i) Lake. (j) Tidewater. (3) When commercial coal is diverted to other than original consignee, promptly notify shipper and original consignee of each car and keep adequate record for later settlement. (4) Originating coal roads should hold a considerable portion of the commercial coal near coal waybilling points, available for prompt distribution. (5) Intermediate and Terminal Carriers should, as far as practicable, move commercial coal to, and hold it in the vicinity of, points most convenient for prompt rehandling and distribution. (6) Coal must not be delivered to commercial consumers either in accordance with the priority list (established in Rule Two) or otherwise, except with specific authority from the Coal Committee having jurisdiction. (7) Regional Directors will immediately notify each railroad under Federal control of the Regional Coal Committee with which it shall deal. (8) Each railroad shall report at once to the Central Coal Committee and to the Regional Coal Committee the name, title, location and telephone address of the representative in whom this whole matter will be centered for that railroad. (9) In order that the Central Coal Committee may be informed of the requirements for coal in each region and of the necessity for transferring coal from one region to another, each Regional Coal Committee will make such daily reports to the Central Coal Committee as are provided for herein and may be called for from time to time. (10) Each railroad (or each grand division of a railroad) shall report daily by wire to the Regional Coal Committee, to be received not later than 9 a. m., information as to its coal situation for the twenty-four hours ending at 1 a. m., that day. (11) Each Regional Coal Committee will report daily by wire to the Central Coal Committee, as promptly as information is available, a sum-

mary of the coal situation for the twenty-four hours ending at 1 a. m., that day. (12) Applications to Regional Coal Committees for delivery of coal to commercial consumers must be made through the railroad which will make delivery of the coal; such applications must show complete and accurate information with respect to the preferred nature of the requirements, the amount of coal which the applicant has on hand, and the amount which the applicant requires for the preferred use, together with the rate of consumption and the kind and size of the coal desired, all as set forth in Form C attached hereto. (13) Each Regional Coal Committee will apply a consecutive number of all orders authorizing the delivery of coal and compliance with such orders must be reported promptly by the railroad to the Regional Coal Committee. (14) Coal diverted for commercial uses shall be paid for in accordance with the Fuel Administrators' order dated January 14, 1918. In order to insure payments coal shall be diverted for commercial use to such applicants only who shall satisfy the Federal or General Manager of their financial responsibility or who shall deposit a certified check or other satisfactory security in such sum that will insure full payment for any coal furnished. The applicant shall make definite written obligation to pay the shipper for the coal promptly upon presentation of bill. The legal transportation charges, including war taxes, from mines to point of delivery to the applicant, will be collected on delivery in the usual way.

Sale of Acids

The Ordnance Department Salvage Board, through the District Ordnance Office at St. Louis, is offering for sale by negotiation large quantities of spent, weak-charging and charging acids, located at the plant of the Western Cartridge Company, Springfield, Ill., bids for which will be received until November 12, 1919, by the District Ordnance Office, Missouri State Life Building, St. Louis, Mo.

The acids offered are described as follows: 650,072.5 pounds of spent acid, stored in tanks containing 424,302.3 pounds of 100 per cent sulphuric and 119,548.3 pounds of 100 per cent nitric acid; 107,688 pounds of weak-charging acid, stored in tanks containing 76,781.6 pounds of 100 per cent sulphuric and 5,309 pounds of 100 per cent nitric acid; and 171,956.4 pounds of charging acid, stored in tanks containing 147,602 pounds of 100 per cent sulphuric and 10,313.9 pounds of 100 per cent nitric acid.

These acids are in good condition and may be inspected before bids are submitted by applying to the St. Louis District Ordnance Office.

SECRETARY WILSON DELIVERS

SIGNIFICANT LABOR ADDRESS

No effort is made in this issue of THE MINING CONGRESS JOURNAL to cover the news of the proceedings of President Wilson's Industrial Conference. Those proceedings were carried in great detail by the daily papers throughout the country. One feature of the convention, however, which does deserve space in this issue is an extract from the address delivered by the Secretary of Labor. The position he takes is held to be indicative of great encouragement. He said:

"The whole world is face to face with the most difficult peace-time problem it has ever had to deal with. The wastage of war has been tremendous. There has not only been the loss of millions of lives and the permanent disability of other millions of people, but there has been an extraordinary destruction of the material resources of the world. The power of replacement of the things destroyed has been seriously impeded by the conditions that constitute the aftermath of war. Industry has been disarranged by the processes of readjustment to the needs of peace, and commerce has been handicapped by insufficient shipping facilities, foreign exchange, and domestic uncertainty. Many countries are without stable government, and financial inflation in all of the commercial countries of the world has played havoc with the relative values of money, wages and commodities.

"The effect of these things has been reflected in the high cost of living and the consequent demand for higher wage rates to meet the increasing burden of the family budget. Yet increases in the wage rate do not always give relief. There are but two ways by which the general standard of living of the wage-workers can be improved. One is by increased productivity, making more material available for wages. The other is by taking the means of increased compensation out of the profits of the employer. If wages are increased and profits remain the same, the burden is passed on to the consuming public in the form of an increased cost of living, and comes back in that form to the wage-worker himself. No portion of improved living standards can come out of the profits of the employers unless there is profiteering.

"And what gives the opportunity for profiteering? The very conditions that we are confronted with today—the destructive agencies of war, the disarrangement of industry and commerce, and the unrest and high nervous tension of our people, resulting in a shortage of supply as compared with demand. The whole world is interested in returning to the highest productive efficiency, having due regard to the health, safety, and opportunities for rest, recreation and improvement of those who toil. The more productive we are the sooner we will replace the wastage of war, return to normal price levels and abolish the

opportunity for profiteering. There can be no profiteering where the production is ample to meet the needs of the people of the world if there is a free flow of material from producer to consumer. It is only where the production is not sufficient for the needs of the people, or, when sufficient, where artificial obstructions impede proper distribution that there is any possibility of profiteering. Anything that restricts the highest efficiency commensurate with the physical, mental and spiritual well-being of the workers tends to retard the progress of the country as a whole.

"For that reason we are all interested in the maintenance of industrial peace, but there can be no permanent industrial peace that is not based upon industrial justice. Just as international wrongs may accumulate to the point where war is necessary to bring relief, so industrial wrongs may make industrial conflict preferable to the further endurance of the wrongs imposed. Nor is it sufficient that either side to an industrial controversy should be the sole judge of what constitutes justice. The means must exist by which all men may know that justice has been secured. An imaginary wrong has all the force and effect of reality until it is shown that it is only imaginary. We have found ways of regulating all the other relations of mankind. Surely human intelligence can devise some acceptable method of adjusting the relationship between employer and employee.

"The right of any man to cease working for another for any reason that is sufficient to himself is the basic element of human liberty. The right of any person to refuse to operate his plant at any time he desires to do so is the exercise of a property right guaranteed by the Constitution. It does not follow that because these rights exist it is necessary to exercise them. They must nevertheless be safeguarded. Having done that and having devised the machinery by which justice can be secured and by which everybody at interest has the opportunity of knowing that justice has been secured, it is not likely that the right to cease work will be exercised by sufficient numbers, or the right to cease operating industrial plants will be carried to such an extent as to seriously affect the welfare of the balance of the people.

"There have been a number of great epochs in the spiritual and material advancement of mankind. The laws of justice laid down by Moses and the laws of love laid down by Christ stand out as the greatest of all ideals. Upon your shoulders rests a splendid responsibility. Before you the doors of opportunity are open, not to the acquisition of wealth or the attainment of fame, but to the greater achievement, the establishment of institutions that will promote the welfare of mankind down through the ages. If you, in the abundance of your combined wisdom and experience, can produce an acceptable document of

this character, the results of your work will find a place in the hearts of men like the Magna Charta, the Bill of Rights, the Declaration of Independence, the Constitution of the United States, and the Emancipation Proclamation.

"In the name of the President of the United States and in his behalf, I wish you godspeed in the great task before you."

OKLAHOMA KANSAS AND MISSOURI CHAPTER

The organization of the Oklahoma-Kansas and Missouri Chapter of The American Mining Congress was formed during the year 1919, and began to actively function in August under the direction of K. L. Koelker, who accepted the secretaryship of the organization. Mr. Koelker is a mining engineer who formerly worked under R. C. Allen, who then was Mines Tax Adviser for the Treasury Department.

The membership of the Chapter numbers about eighty and represents from 70 to 80 per cent of the total independent zinc and lead ore production of the Miami Zinc Fields, and includes the district tax organization and the High Grade Ore Producers membership. These two organizations have been most successful in the handling of tax matters and high grade ore problems.

The weekly bulletin prepared by the secretary is giving to the membership the first accurate and comprehensive information ever offered relating to production and mines statistics, and is combined with accurate market information from several New York correspondents.

The object of the organization as relating to this district is to bring about cooperation and coordination between the mine operators of the district, and to cooperate with the national organization in the many national problems relating to the mining industry.

The operators in this district have been greatly benefitted by the activity of the national body in clarifying the matters relating to mines taxation.

The officers of the chapter are as follows:
Victor Rakowsky, Governor.

Executive Committee: P. B. Butler, F. N. Bendelari, Victor Rakowsky

Board of Directors (one year): Edgar Wallower, Missouri; C. F. Dike, Oklahoma; P. B. Butler, Kansas; George Coleman, Oklahoma; L. L. Fillius, Oklahoma. (Two years): D. C. Corner, Kansas; John Capelli, Kansas; T. F. Coyne, Missouri; F. N. Bendelari, Oklahoma; Victor Rakowsky, Oklahoma. (Three years): J. W. Hoffman, Kansas; T. J. Franks, Missouri; C. E. Schwarz, Oklahoma; Frank Weeks, Oklahoma; D. D. Dunkin, Oklahoma. D. C. Corner, Treasurer.

FERTILIZER RAW MATERIALS TO BE FREE FROM "PRICE FIXING"

Reports have reached the U. S. Department of Agriculture indicating that statements have been circulated to the effect that the department has "fixed prices" for raw fertilizer materials pursuant to a conference held with the producers of such materials at Washington on October 6 and 7. The department announces not only that it has not "fixed" any prices as reported, but that after due consideration, it has reached the conclusion that, in the circumstances, it would not be warranted at the present time in naming a fair profit for such raw fertilizer materials as sulphate of ammonia, dried blood, tankage, fish scrap, and cottonseed meal. The department, however, will continue fully to exercise its own powers under the licensing system against profiteering as well as in conjunction with the Department of Justice. The amendment to the Control Act carries a provision to the effect that anyone who violates the act by profiteering or otherwise shall, upon conviction, be fined not exceeding \$5,000 or be imprisoned for not more than two years, or both. Any act of profiteering under the law or any other violation of the law may be prosecuted criminally after the licensing provisions thereof are terminated by a formal proclamation of peace.

Use More Artificial Abrasives

The most important problem affecting producers of natural abrasives in the United States is the recent extensive substitution of artificial abrasives for uses which a few years ago were supplied almost exclusively by natural products. The future of the natural abrasive mining industries is largely to be determined by the extent to which such substitution may be carried, and a careful study of this problem would be of great interest both to the miners of natural abrasives and the miners of raw materials from which many of the artificial abrasives are manufactured.

Reports Manganese Find

The Superior Manganese Company reports an exceptionally good find of high-grade manganese ore at Neva, Tenn. The ore is being mined for use in the new ten-ton electric furnace that has been erected at Cleveland, Tenn., and will begin operating in the near future. It is also planned to treat the carbonate ore of the East Fork Mine, near Sevierville, Tenn., in this furnace. Reports of the operations of this furnace are awaited with interest. The furnace is being built by the Tennessee Manganese Company of Knoxville, Tenn.

Load Many Coal Cars

As indicating the efforts being made to handle the coal situation, a report has been received showing that for the week ended September 27, Pennsylvania Lines East loaded more cars of bituminous coal than ever before in the entire history of the road. In that week, Pennsylvania Lines East loaded 24,158 cars of bituminous coal, which is 1,022 cars more than its next highest previous record, which was for the week of August 23, 1919.

Finds New Steel Markets

The United States is finding many steel markets that formerly were believed to be exclusively for continental monopolization. For example, Norway, Sweden, and Denmark are countries in which the United States is successfully competing for trade.

Little Stimulus to Gold Production

There is little stimulus to increased production of gold, the added cost of materials and labor forcing many projects to be abandoned. In case of inactive mines a reopening is usually very costly and may entail considerable dewatering, retimbering and extra labor.

French Blast Furnace Situation

Of French blast furnaces in the Nancy and eastern districts only six out of forty operated before the war are in blast; in Longwy two out of a possible thirty-six furnaces are in use. In the south central and west districts the proportion is higher; twenty out of thirty-four furnaces are operating. About 1,705 tons per day are produced by all these furnaces.

The Roberts & Schaefer Company have just issued a catalog illustrating the service they are prepared to render coal mining companies. This catalog is profusely illustrated with photographs of their Marcus coal tipples, picking table screens, etc. Copies will be furnished upon request to the Roberts and Schaefer Company.

The Atlas Powder Company, of Wilmington, Del., announces the removal of their general offices to 140 N. Broad Street, Philadelphia, Pa.

The volume of business in tippie construction and increased facility for service to coal operators is cause for the engagement by Jacobson & Schneider, Inc., of the entire top floor of the Majestic Building, Chicago, and a branch office in the Oliver Building, Pittsburgh, Pa.

COAL ZONES JUSTIFIED ONLY AS WAR MEASURE, SAYS LESHER

Concerning a report, soon to be published, on the zoning system as applied to coal, C. E. Leshner, the geologist in charge of mineral fuels for the U. S. Geological Survey, says:

"There can be no question as to the necessity for and valuable results attained by the zoning system in the distribution of coal in 1918. As a war measure the zones were justified and proved their worth. The control of distribution and the saving in transportation effort made possible by the zones could have been attained in no other way. The question at once arises why if the zones were such a help during the war they should not be adopted now. If it is an uneconomical use of transportation to haul coal from one field across another in war time, it is not equally a waste of effort in times of peace.

"There can be no zone system without governmental control of distribution of coal. Under normal conditions the idea of restriction in the movement of coal is abhorrent to the greater part of the coal industry. Limitations of markets and stifling of competition would remove the incentive to individual effort. No zones can be outlined that are self-contained and none could, in the very nature of things, be made permanent. The tendency of each producing field to obtain extensions to its market territory and to restrain the encroachment of other fields would produce controversy vastly greater than is now experienced in the adjustments of the railroad rate structure. Bituminous coal is of many varieties and kinds, but the production of certain of these varieties of coal is limited to certain mines and fields. Coal of particular quality is essential to the manufacturing of gas for cities, for making malleable iron, for making coke, and for many other special uses. The establishments for making gas or malleable iron or for by-product coke are situated not with respect to the proximity of the coal supply but adjacent to the market for the product. A consumer in Chicago may not be able to operate his plant without a certain grade of coal from West Virginia or Pennsylvania, but most of his neighbors may be satisfied with coal from nearby fields in Illinois or Indiana. If Chicago is without the zone for the coal fields of West Virginia and Pennsylvania, special provision must be made to supply the consumer with his particular needs.

"During the war Chicago was outside the zones for these eastern coals, and it was necessary to provide permits for the shipment of gas and coking coal to certain consumers in that market. It was also necessary to deny permits to many others,

either because they could use local coals or because their product was not considered essential to the war program. But during the war it was possible to set apart the preferred from the nonpreferred consumer and to permit one to operate and close down the other. In times of peace, on what reasonable ground can Pocahontas coal be denied a clay products establishment, a florist, or a window-glass factory if the operator of this or that factory maintains that Pocahontas coal is necessary to his successful operation?

"It is said to be a fundamental principle of rate making that no discrimination can be made in rates because of the use to which the product transported is to be put. Different rates can be and have been established for the identical transportation service for commodities, as gold ore, dependent on the value of the ore. But different rates would not be countenanced for hauling the same ore to a cyanide recovery plant as against a shipment to a smeltery.

"Zones sufficiently restricted to result in saving of transportation would prohibit the movement of much coal that, as industry is situated, would be essential. To let down the bars in one instance and not in another would require a type of arbitrary action possible only to a governmental agency and submitted to by shippers and consumers alike without protest only under stress of war.

"It has been argued that zones might be established by adjustment in the freight-rate structure. For example, rates might be so adjusted that by comparison, coal from the farthestmost mines in Illinois and Indiana could be shipped to Chicago so much cheaper than coal from southern West Virginia that none but those absolutely requiring the eastern coal would pay the freight. But such a course would penalize industry in Chicago, and result in the stoppage of certain manufacturing activities and discourage the establishment of others. Such a course in this instance is unthinkable, because one of the lessons learned from the war is that manufacturing industry is already too centralized in the east for national welfare and safety. Furthermore, the present rates on coal really determine to a large extent the market that can be reached and under normal conditions restrain the shipment to comparatively well-defined zones. In face the bituminous coal zones established by the Fuel Administration were largely predetermined by the practice of distribution in former years resulting from competitive conditions under fixed railroad rates on coal.

"The answer to those who would have the distribution of bituminous zoned for

all time is that it is not necessary except as a measure of extreme urgency, and that its administration would require a continuing governmental agency with power over distribution and use of coal that is foreign to our national thought.

"Consumers would find as much objection in a policy of permanent zones as would the producers and shippers. Perhaps as good an example as any of this may be found in the experience of the Fuel Administration in 1918 with the Iowa zone. Bituminous coal of an inferior quality is produced in a number of small districts in the central part of Iowa. On the basis of representations made to the joint committee on zones of the Railroad and Fuel Administrations the original zone for coal produced in Iowa was limited to include roughly the western two-thirds of the state, in the expectation that the mines in Iowa could be expected to supply that part of the state with coal. The westernmost limit to which coal from Illinois could be shipped into Iowa was to the west of the easternmost limit for Iowa coal. As regards the relative ability of the two fields, Iowa and Illinois, to supply the state, these limits were doubtless correctly established. It happened, however, that at the time the zones were inaugurated in April, 1918, because of a controversy over prices, the railroads ceased the purchase of Iowa coal for fuel. Vigorous protests were made by the operators and mine labor in Iowa against the restriction in shipments of Iowa coal into the eastern third of the state, and it was claimed that, cut off from this market, the mines were closing down, the miners leaving the fields, and that the local industry was being wrecked. These protests were seconded by state officials and manufacturing interests. To prevent the demoralization of the coal-producing industry in the state the restriction was removed and Iowa coal permitted to move to any point within the state; at the same time, to fully insure the Iowa producers ample market for their coal, a condition sought by all interests in the state, the westernmost limit on Illinois coal was moved east of the line first established. The consumers who were thereby denied the superior coal from Illinois at once entered vigorous protest at the necessity of burning coal from their own mines, notwithstanding that they had but a few days previously contended for the unrestricted use of Iowa coal by Iowa consumers.

"In this report on the zone system Mr. Ellis has presented in detail the historical facts leading up to the adoption of the policy, has described the zones and modifications, and by quoting selected portions of the mass of the correspondence record on the subject has shown at once some of the difficulties in administering such a

policy and the methods pursued in meeting the difficulties. It should not be assumed that the zones were administered and modifications made solely on the basis of the record contained in this report. The administration was possessed of daily and weekly operating statistics that informed fully as to conditions of production and supply of coal in each and every portion of the country, and no action was taken with respect to the zones that these statistics did not indicate in some measure a necessity.

"It is believed that this report is an important contribution to the record of war-time regulation of a most important and essential industry, and as such needs no further introduction."

DR. GARFIELD RESTORES FUEL PRIORITY LIST ON EVE OF STRIKE

Dr. Garfield's coal priority, order issued October 31, reads as follows:

"Acting under authority conferred on me by in order of priority set out in the preference by virtue of authority conferred upon him by the Act of Congress approved August 10, 1917, I hereby revoke the order of the United States Fuel Administrator issued January 31, 1919, in so far as it suspended the order of the United States Fuel Administrator of January 14, 1918, effective 7 o'clock a. m., January 15, 1918, and the portion of the order of the United States Fuel Administrator of May 25, 1918, setting up preference lists, and I hereby restore the said order of January 14, 1918, and said portion of the order of May 25, 1918, to like effect as if they had not been suspended; and I designate the Director General of Railroads and his representatives to carry into effect the said order of January 14, 1918, and to make such diversions of coal which the railroads under his direction may as common carriers have in their possession, as may be necessary in the present emergency to provide for the requirements of the country in order of priority set out in the preference list included in the order of the United States Fuel Administrator of May 25, 1918, as follows:

- (a) Railroads.
- (b) Army and Navy, together with other departments of the Federal Government.
- (c) State and County Departments and Institutions.
- (d) Public Utilities.
- (e) Real Dealers.
- (f) Manufacturing Plants on War Industries Board's Preference List.
- (g) Manufacturing Plants not on War Industries Board's Preference List.
- (h) Jobbers.
- (i) Loke.
- (j) Tidewater.

SUCCESS ATTENDS DEDICATION OF PITTSBURGH STATION

The new experiment station of the U. S. Bureau of Mines at Pittsburgh, which has been in use for about two years, was formally dedicated to public service on September 29, the dedication ceremonies having been postponed on account of the emergency of war. The building was open for inspection at 8.30 in the morning, and guests began to assemble early to inspect the laboratories and museum. The dedication ceremonies were held in the courtyard, between the two wings of the building at the rear, where a speakers' stand had been built, and there was ample room for the large crowd that was in attendance. Weather that would rival the climate of California made this outdoor ceremony the more enjoyable. T. J. Gillespie, of the Pittsburgh Chamber of Commerce, presided, and the opening invocation was said by Dr. S. B. McCormick, Chancellor of the University of Pittsburgh. E. V. Babcock, mayor of the city of Pittsburgh, welcomed the assembled guests and official delegates to the city, and this welcome was responded to by A. T. Vogelsang, First Assistant Secretary of the Interior, in an eloquent address. He read the following telegram from President Wilson:

"Will you not be kind enough to convey my most hearty greetings to the assemblage at Pittsburgh next Monday. I wish that I might be present to express my very deep interest in the work being done by such instrumentalities for the increase of production, the safeguarding of life, and the raising of the standard of labor and scientific endeavor. It is a very happy circumstance that with this meeting should be associated the ceremonies connected with the dedication of the new buildings in Pittsburgh of the Bureau of Mines."

He paid a tribute to the excellent work done by the Bureau of Mines, both in peace time and during the period of the war, and went on to make an appeal for industrial peace as the sure foundation for national prosperity and happiness. "It is not asking too much of capital or too much of labor to grant this brief respite from industrial quarrels. Let this country once again get the pulse-beat of peace, which it craves above and beyond all other things. Let us confine our scrapping to the elimination of old methods, old formulas, and old ideas. The greedy profiteer is not yet out of the social equation, but he is going. The ignorant and scheming revolutionist is still with us to some extent, but he, too, is going. The sober, honest people of this country intend that both shall walk the same plank. Happy days when they go."

William C. Sproul, governor of Pennsylvania, spoke forcefully of the importance of the mining industry in Pennsylvania, of the contribution which the Bureau of Mines has made and can make to its continued progress, and pledged the cooperation of the state in every way in helping the bureau to do the things it is necessary and desirable to do in the development of the Pittsburgh station to its full usefulness. He also urged the cooperation of the men who do the work in the mining industry and the men who have the properties in which the work is done. He further said:

"There is one other thing in which I am very much interested and that is the surroundings of mining properties in Pennsylvania. I am interested very much, and the state is going to be interested very much in this question of housing. You can have your mines as safe as you please, as safe as human ingenuity finds possible to make them; you can have engineers as far-sighted as you please, and your miners as loyal and progressive as you please; but you cannot raise good citizens in squalid, badly-cared-for localities and in poorly constructed, unsanitary homes. This institution is interested in that, and very much interested in the state of things which will bring about better conditions, but I think it is the duty of the state to help in those matters very materially. And if I am spared until the next session of the Legislature I propose to make certain recommendations to the people of this commonwealth and representatives by their lawmakers which may be considered radical, but which I believe will be very effective in bringing about better conditions, more sanitary and more inviting communities for our people to live in."

J. Parke Channing, the representative of the American Institute of Mining and Metallurgical Engineers, in a thoughtful address, discussed the problem of production and distribution in industry and the industrial problems of the day. He said:

"To my mind democracy in industry means cooperation with the workmen, in discussing with them the question of wages, hours of work, and working conditions. The question of working conditions is the most important, and on it will depend the health and comfort of the worker and the efficiency of the plant."

"The engineer, then, in his relations with the workmen must realize that first and foremost there must be justice. He must realize that the health of the men must be conserved. No sick man can ever have a sane view of life. He must strive as much as possible to make the workman have an interest in his work, explaining to him the operations which are apparently inexplicable and the bearing which it has

upon the work of the plant as a whole. He must encourage the men toward right living and economy, as one of the greatest desires and satisfactions of life is to own something. He must see that as far as possible his plant is made attractive, because a man feels better and works better in a well-lighted, well-ventilated, and well-kept plant than in a dirty, grimy place. And, lastly, he must not repress the desires of the workmen to associate, but should encourage his men to get together and to form associations just the same as he, himself, belongs to his various engineering organizations. But foremost, and as his guiding star, he must remember that justice is at the basis of all industrial as well as social relations."

Next the key of the building was formally turned over to Director Van H. Manning by Assistant Secretary Vogelsang, who said that he hoped the key would never lock the building, but he regarded it rather as a symbol of the purpose and the function of the bureau to unlock the secrets of nature for the use and benefits of all mankind.

Mr. Manning, in receiving the key, said:

"It is indeed to me a very high privilege to accept from you this key to this magnificent structure which has been contributed to the cause of humanity by our Government. It is an honor to be the representative who has been selected to accept this emblem which stands for safety and efficiency in the universal industry, and I hereby pledge to you, Mr. Secretary, and to you who represent capital and labor, employer and employe in the mining and allied industries, my allegiance to the cause we represent."

The official delegates and invited guests were entertained by the Chamber of Commerce at a luncheon on the third floor of the bureau's building, after which two special trains conveyed the visitors to the experimental mine at Bruceton, Pa., where a mine explosion involving 1,100 pounds of coal dust was set off in the experimental mine. After this the use of rock-dust barriers for the prevention of coal-mine explosions was demonstrated; also the use of liquid oxygen explosives for underground work. The visitors also inspected the interior of the experimental mine and the laboratory equipment by which the results of controlled mine explosions are recorded and their effects studied.

In the evening the guests were entertained by the Chamber of Commerce at an organ recital in Carnegie Music Hall at which Samuel Harden Church, director of the Carnegie Institute; A. T. Vogelsang, Assistant Secretary of the Interior, and Van H. Manning, Director of the Bureau

of Mines, made brief addresses. Following this there was shown the motion-picture film, "The Story of Coal," which has just been prepared by the Bureau of Mines in cooperation with the National Coal Operators Association.

The following two days were devoted to the holding of the Fourth National First-aid and Mine Rescue Contests on Forbes Field. On the afternoon of the second day Director Van H. Manning announced the names of those to whom there had been awarded the first gold medals of the Joseph A. Holmes Safety Association for heroism displayed in efforts for the rescue of imprisoned miners or persons in jeopardy. Sixteen medals were awarded, eight of them to men who had lost their lives in their heroic attempts.

On the evening of the second day a pageant, "The Hidden Treasures of Earth," written and directed by Thomas Wood Stevens, was presented on Forbes Field by the Chamber of Commerce of Pittsburgh with the cooperation of the School of Drama of Carnegie Institute of Technology. This pageant, showing in spectacular form the conquest of the secrets of the earth by man with the aid of knowledge, and his attainment thereby of power, was most artistically performed and was greatly enjoyed by thousands of people.

On the third day the final contests were held of the First Aid and Mine Rescue Meet, and in the evening the prizes were awarded to the winners at a smoker given in the assembly room of the Chamber of Commerce.

Vermont Talc

Vermont talcs vary from a very soft, green, translucent, foliated variety to a moderately hard, compact massive variety ranging in color from white through light green and gray-green to a dark mottled green. Practically no fibrous talc is found in Vermont. Foliated talc occurs in small quantities, but is not of commercial importance, because, although it is soft and very pure, it is very difficult to grind properly by the machinery now in use, owing to the fact that it breaks up in thin plates or laminae which slip upon each other in the grinding machinery. Thus the massive is the only variety of pure talc important in Vermont. The mining of talc, however, is peculiar in this region in that a closely associated mineral, known locally as "grit," is usually mined with the talc and often forms the most important part of the output. "Grit," as the term is used in Vermont, does not mean siliceous or other gritty impurity, but refers solely to the talcose material occurring with the pure talc.

EXTENSIVE RESEARCH GROWING NEED OF THE OIL INDUSTRY

BY VAN. H. MANNING

The welfare of any industry must be considered in connection with the welfare of the people. Capital and labor cannot disregard the public, that must be represented and considered. A review of the American petroleum industry shows that the industrial development and general prosperity of the United States depend upon an adequate supply of petroleum. It was one of the prime factors in assuring victory for the armies of the Allies, and today our automobiles, trucks, farm tractors and motor boats are dependent on it for power, and few manufacturing industries can exist without it. There are no known commercial substitutes for gasoline or lubricating oils, and, in fact, petroleum in one form or another reaches every household in the civilized world. As to the future, it is certain that the demand for petroleum will increase.

Faced with this growing need for petroleum, we have to consider seriously the means whereby an adequate supply for the future can be obtained. We know that the domestic output does not meet the present consumption and that the amount of this deficit will probably continue to increase. Of the original available supply underground, it is estimated by the U. S. Geological Survey that we have consumed 40 per cent that is unreplaceable. A diminishing output with increasing consumption will make the United States more dependent on foreign fields.

It is true that there are vast oil reserves in foreign countries, and if these fields could be developed without hindrance, they could, even though consumption continues to increase at the present rate, probably meet the world's demands for the next ten years at least. Prediction beyond the ten-year period is not safe, for too many uncertainties are involved.

In meeting the world's needs, however, the oil from the United States will continue to occupy a less and less dominant position, because within the next two to five years the oil fields of this country will reach their maximum production, and from that time on we will face an ever-increasing decline.

We thus see domestic oil fields unable to meet our home demands under present methods of utilization and manufacture. This startling fact cannot be ignored. We must and can obtain a more efficient utilization of petroleum by proper investigative work. Research work and scientific development work should be actively stimulated.

Our efforts should tend toward obtaining perfection in processes, mechanical equipment, and in the proper development

of our plants and processes. The day of empirical formulas and rule-of-thumb methods should not be passively allowed to continue. It is only by scientific research and the adoption of methods pointed out by this research in which natural laws form a basis for the quality and value of any product that we can hope to obtain the most valuable products out of petroleum.

Today there are many laboratory processes which have not been developed further simply because of insufficient funds to install them commercially. One object of research would be to test out on a commercial scale many of the laboratory processes now dormant commercially because of insufficient funds. Another object of research should be to correlate the pertinent facts of all investigative work and start supplemental research at the point where it is needed. This procedure will avoid costly repetition. The results of all past and current work should be properly correlated and brought under one large head, so that the greatest good can be accomplished and duplication minimized.

It is the research man who should point out the manufacturing losses and indicate the necessary investigative work whereby these losses will possibly be reduced or eliminated. These results should not be stored in the records of one company, but should be available to other manufacturers, so that they may profit by the experience and findings of their neighbors. A proper exchange of information must save much costly duplication of work.

The petroleum industry, valued at billions of dollars annually, is essential to national efficiency, and national efficiency can be attained only through scientific research. The necessity of such research is becoming recognized more and more by the large industrial units, some of which spend thousands of dollars annually for scientific investigations. Many petroleum organizations have scientific bureaus, but much of the knowledge these bureaus gain is confined in the archives of the company's laboratory.

The need of research is recognized in many professions, and particularly in medicine. The medical profession is essential to personal health and life, and vast sums of money have been donated to medical research. As a result, typhoid fever, smallpox, and many other deadly diseases have been mastered. The money donated to medical research has been refunded many times over through the saving of life and the increase of human efficiency, and intensive research in the petroleum industry would yield results incomparably more valuable than the cost of the work. A fraction of the sums spent in medical research would, if expended in petroleum investigations, bring about im-

proved methods that would vastly increase efficiency in the utilization of each barrel of oil. In 1918 the value of the output of crude oil and refined products in the United States was about \$2,500,000,000. Certainly the petroleum industry can afford to spend more than has heretofore been spent in research to discover new methods and perfecting those in use, for thereby the recovery of oil will be increased and utilization will be far more efficient. In this way the cost to the consumer will be lessened and a rapidly diminishing commodity, one essential to our existence, will be conserved.

In conclusion, I do not believe that this problem could be emphasized any more strongly than has been done in a letter to me from Secretary Lane, of September 24, from which I quote the following paragraphs which have a direct bearing on the above subject.

"... It is not an exaggeration to say that millions of dollars must be spent in experiment before we know the many services to which a barrel of oil can be put. There is almost an indefinite opportunity for research work along this line. Petroleum is a challenge to the chemists of the world. And now the world is dependent upon it as it is upon nothing else excepting coal and iron, and the foodstuffs and textiles. It has jumped to this place of eminence within twenty years, and the world is concerned in knowing how large a supply there is and how every drop of it can best be used.

"We are behind the rest of the world in the use of our oil for fuel purposes. We are spendthrifts in this as in other of our natural resources. We can get three times as much energy as we do out of our oil through the use of the Diesel engine, yet we are doing little to promote development of a satisfactory type of stationary Diesel, or marine design. Instead of seeing how many hundred millions of barrels of oil we can produce and use, our effort should be to see how few millions of barrels will satisfy our needs...."

The views of Mr. M. L. Requa, in a letter to me of September 25, have such an important bearing on this great topic that I think it well also to add a few pertinent statements from his letter on this subject:

"... I am on record in various published addresses as to my attitude concerning the petroleum problem, and I think it unnecessary to repeat those statements. I cannot, however, refrain from pointing out briefly, the acute need that I believe exists for constructive and cooperative work of the character that you are proposing. That it has never been done before has been due to two causes, one, the less pressing need, and the other, the lack of realization upon the part of the industry of the necessity for cooperative and constructive action.

"Because of the tremendous increase in the consumption of petroleum products, we have confronting us problems that have been of little concern in the past, but will be of very much greater concern in the future. Satisfactory answers cannot be made, except through constructive action upon the part of the industry. There is no alternative, in my judgment...."

"We are, in my judgment, just beginning to see the dawn of the 'real petroleum era.' All signs point to a demand for the product in the future that will far exceed anything in the past. I am optimistic enough to believe that the Diesel engine will be perfected and become of universal application; if so, the day of the steam unit will have passed.

"The extraction from a barrel of oil of all of the component parts, so far as is commercially practicable, and the distribution of those products in channels of trade, in a useful and economical way, rather than their destruction as is now the case, is a matter of highest concern...."

CALIFORNIA SECTION OF THE AMERICAN MINING CONGRESS

At the annual meeting, held October 22, of the California Metal and Minerals Producers Association, which is the new name of the old California Metal Producers Association reorganized in order to include within itself the California Chapter of the American Mining Congress, George W. Starr, of Grass Valley, Cal., was elected president; E. C. Hutchinson, first vice-president; L. D. Gordon, second vice-president; P. C. Knapp, third vice-president; Robert I. Kerr, secretary-treasurer; and Curtis H. Lindley, attorney. Albert Burch, E. C. Hutchinson and George W. Starr were elected to the Board of Directors for a period of three years. P. C. Knapp, W. J. Loring and O. J. Eggleston were elected to the directorate for a period of two years. J. A. Fulton, William G. Devereux and L. D. Gordon were elected to the directorate for a period of one year.

At this meeting all active and corporate members of the American Mining Congress residing in the State of California were duly elected members of the California Metal and Minerals Producers Association. The secretary was instructed to notify such members of the action taken and report that such memberships would be perfected upon receipt of the dues provided for in Article III of the amended articles of the association, which provides that the annual dues of the State Chapter is \$5.

The work of the California Chapter has been more or less retarded by the time which has been necessary to effect the reorganization of the California Metal Producers Association.

THE TAX-PAYER — A GUARANTOR

BY GEORGE H. CUSHING

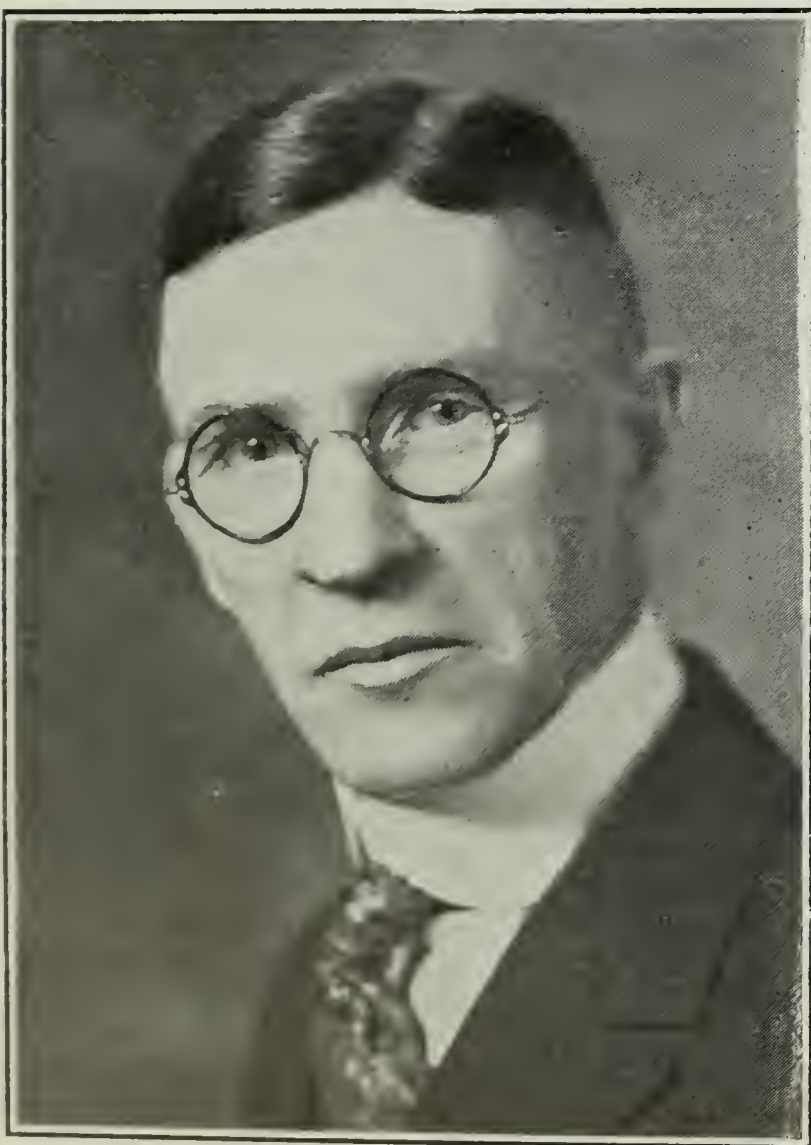
Managing Director, American Wholesale Coal Association.

There is an old and a wise saying:
"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

The Congress in the United States is inclined to offend in both particulars.

The oldest of proved truths is that a government cannot run any business efficiently or satisfy the people with the outcome. The evidence is convincing.

Joseph, in Egypt, established governmental corn cribs and got a "corner" on food. We



GEO. H. CUSHING

have no satisfactory review of the economic discussion which must have taken place. We have only a cold-blooded statement of the fact. Joseph was the autocrat of Egypt while he controlled the corn cribs. Then he fell. The Children of Israel of the next generation were in slavery in Egypt. Apparently the Ptolemies and the Egyptian people did not care to perpetuate the federal Food Administration. They had their own barbaric way of recording their dislikes.

The followers of the Christ made the next

recorded attempt. The only lasting result was to give Ananias a reputation for being the prize liar of all history.

Rome at one time established public corn cribs. The men who advocated them failed, and even the Roman Republic went down.

After hundreds of similar attempts elsewhere—and always with the same result—New Zealand tried federal control of railroads. It turned them over to the labor unions, who absorbed all of the income and made the carriers over into a scheme of job insurance. When the railroads were bankrupt, the British Government stepped in to end the experiment, absorbed the impossible debt and told that province to behave itself in future.

Thus, the idea of federal control is quite old. It is about the oldest economic experiment of record. Its effectiveness has been thoroughly disproved. Just the same, the American Government puts it forward as a panacea, in this advanced date of 1919 A. D., with as much flourish as though it were a real discovery. The noise made over the re-discovery of this ancient idea recalls the noise made by one conspicuous Washington politician some years ago when he re-discovered the Ten Commandments and the Golden Rule.

Government control or ownership is chartered on every road map of history as being the worst possible. The danger signal is hoisted on every pertinent page of history. America, however, is now advertising it as being the direct route to ease and comfort. In this it is offending against the wise old saying: "Be not the last to lay the old aside." So much for that.

The most interesting offense of Congress is that it insists upon being the first to try new and dangerous experiments. The latest proposal is that the people shall guarantee a fixed return on railroad investment. Presumably this will be 6 per cent. Presumably the roads which manage to earn more than 6 per cent will deposit their surplus earnings in a common fund to make good the shortcomings of those who earned less than 6 per cent. In a word, the strongest road must carry the weak. In any event, any man who controls a railroad enterprise, and who has the consent of a government bureau to issue securities against it, can sit down with assurance in future and collect his dividends.

I am going to pass hurriedly over the more obvious objections to any such proposal. They are too well known to need extended reiteration here.

For example, every one knows that scientific capitalization, which is presupposed in such a program, must rest upon a known public and frequently corrected valuation of the railroads. For years such a physical valuation of the railroads has been under way. Only two railroads have been so valued, and the Government's valuation is only one half of that of the private companies. It will take years and years to complete the work on all of the roads. Also, Commissioner Clark told the Senate Committee that even the principles upon which valuation must proceed have not been established and cannot be except by a series of court actions which it must take years to complete. There cannot be, therefore, scientific issuances of stock and bonds until we have that physical valuation. To attempt to use such a method today is senseless idealism. However, I pass it over as being ground properly and fully covered by other men.

It occurs to everyone that this plan would put a governmental bureau in detailed charge of the financing of a series of truly great corporations.

Any man of experience knows what labor has been involved in financing any large undertaking in the past. When, for example, a promoter went to New York to raise any large sum of money he had to prove that the venture had a reasonable chance to earn dividends. He had to prove that it was really needed and that there was reasonable assurance of enough traffic to support it. This involved an exhaustive study of the potentialities of the involved sections of the country. Such potentialities were based upon either the existence of natural resources or the fact that within that district the natural resources of other districts came to a focus. Thus it had to be shown that the territory traversed produced something or that it was the logical place for an extensive manufacturing business.

For this method of deciding upon the advisability of a new railroad enterprise, it is now proposed to substitute a government bureau which will become the arbiter in all such things. At the head of such a bureau will be men who are paid less than a Congressman—less, therefore, than \$7,500 per year. This means that, in the main, they will be men of small caliber. You can't hire much of a man for \$7,500 a year. The Government's experience proves that point.

If we judge by experience, their decisions will not be and cannot be made out of consideration alone for the need for any new railroad. Instead, it will be made on the advice of a Congressman or Senator who says that it would be advisable to grant such a permit.

I am not speaking on theory. I know, on my own knowledge, how such decisions have been arrived at in Washington and how they

are being made in Washington as this is being written. However, this also is a trite subject, so I let it pass.

The biggest objection to this whole proposal has not, as far as I have observed, been brought to public attention. It is as follows:

When a man decides to promote a new railroad and when he determines the course which that railroad shall take, the need for that railroad and the route over which it is to be put down are strictly matters of his personal judgment. No one told him or even asked him to promote a railroad. He volunteered. No one told him or even asked him to select a certain route. In that matter, also, he volunteered. Thus, in all respects, the initiative was his and his alone.

Particularly the judgment used—good or bad—was his and his only.

In twenty-five years I have had drawn to my attention a great many of these proposed railroads. I have known many promoters. Your judgment would have told you that these railways started nowhere and ended nowhere and had nothing to carry between those two delightfully indefinite terminals. Your judgment would have told you that they were not to be considered as business enterprises at all but merely as wild-cat promotion schemes.

The promoters, however, were eloquently persuasive. Almost they made you believe that not only must these roads prove money makers—being connecting links between great systems which would use them—but they were absolutely required to keep the country going.

Most railroads so promoted in the past have proved monumental mistakes. They have gone quickly into bankruptcy. Some of them have rusted out of existence and have gone the way of all things useless.

Under this new proposal, the future solvency of such railroads is guaranteed by the Government itself. There may be the same bad judgment—or lack of any judgment at all—in the matter of putting down the roads. However, the natural consequences will not be the bankruptcy of the man who made the mistake and of those who invested behind him. Nor will it be the abandonment of that mistake.

On the contrary, the only result will be a glorification of that mistake into a public burden.

The man may have used notoriously bad judgment which should have brought him a deserved failure, but, instead, it yields him an assured profit so long as he continues in possession of that property. He gets 6 per cent on the money which he puts in or— which may not mean the same thing at all—on the securities which some Washington bureau allowed him to sell. His bad judgment, instead of being his quick undoing, is, by this

proposed law, glorified into a public obligation. The taxpayers of the United States must assume it while the perpetrator enjoys riches at public expense. The taxpayer must become guarantor of every madcap enterprise in railroading. The people must pay for ever and a day a dividend on that property either in freight charges or in taxes.

The only thing necessary to burden the nation with such a horrible nightmare is for some smooth-talking, persuasive individual to convince a Washington bureau that his project is a needed public improvement.

Others may be willing to guarantee, out of their private purses, the consequences of a fool's or a knave's mistakes of judgment. I, as a taxpayer and a citizen, am not. I refuse to guarantee anybody's judgment by announcing my willingness to pay 6 per cent on the money invested in his own hopeful enterprise.

Instead, I say that the judgment was his. The burden of proving the wisdom of that judgment must be his also. I had nothing to do with making this plan. I am not going to pay him dividends on it if he cannot earn them himself.

However, this proposal before Congress is that the people of the United States shall become guarantors for all time of everything that has been done in the way of building railroads in past or that may be done in future. It is an awful thing to undertake.

We may, some day, come to the time when we will not even use railroads except perfunctorily as we now use canals and horses. Nevertheless, under governmental guaranty we must pay dividends on railroad stock, or we must buy the roads, junk them and return to the owners, out of the public treasury, the money that was spent on them originally. I can conceive of no more dangerous undertaking.

A companion piece to this proposal carries identically this same suggestion. That is, after an individual has promoted and built a railroad, he sets himself up as the manager of it. The railroad is his private venture. The capital is supplied by his friends or those who believe in him. A little select group of people choose him as manager of that property. He is then "monarch of all he surveys." No one is allowed to suggest how he shall manage his property. The advice of other people is neither solicited nor accepted. His policy of management is his own.

Under private ownership and private operation, if he cannot operate that railroad successfully, the venture fails. Then, either the investors select another manager or they sell out to other people who select a competent manager. In either event, incompetence of management is short lived. The net result is to get, in the end, competent and, therefore economical, management.

Under the system of public guarantees of the

profitableness of private ventures, the mismanagement is perpetuated. The mistakes in management, if any, do not react upon the man who made them, but upon the people who become guarantors of the enterprise as a whole. Thus mismanagement, instead of being the quick route to retirement for the bad manager, is glorified in a public obligation to be borne by the whole people.

The two proposals amount to this:

The American people are asked to endorse in blank a certain promissory note. They do not and cannot know who is going to lend the money on that note. They do not know what use is to be made of that money. They do not know who is to borrow it. They do not even know the amount. Nevertheless, their endorsement is good for the principal and interest—particularly the interest—on this promissory note of decided and delightful indefiniteness.

Personally, I would not sign a promissory note in blank on any account. I would not do it for my closest relation or best friend. What I would not do as a private business transaction I will not do in my public capacity as a citizen. Certainly, I will not sign a promissory note in blank which compels me to guarantee the principal and interest of such an indefinite and expanding sum as must be involved in not only the value of the railroads today, but of all roads in future. Certainly, I will not when I do not know who is going to lend the money, who is going to manage it, or how much there is going to be of it.

Yet that is the very proposal which is put under my nose as a taxpayer and a citizen. I am to be asked to guarantee a fixed return upon the total amount invested in all the American railroads.

When the Congress proposes such a thing it proposes that we make a wholly new experiment. In doing so, it sins against the other clause in the old saying, "Be not the first by whom the new is tried."

Others may be willing to stand on such a program. I am not. Also, I believe that millions of others in the United States will take the same position as I do when they know what this thing means.

Large Manganese Stocks Available

At the close of the war in November, 1918, there were large stocks of managanese on hand at the furnaces amounting to approximately 228,924 tons, or more than ten months' supply. While the stocks have been drawn upon to considerable extent, there is a relatively large supply of managanese available at the present time. Shipments of ore have been received from foreign sources, particularly India and Brazil, and one shipment of dioxide ore was imported from the Caucasus.

HAS THE METAL INDUSTRY ANY LESSONS FOR COAL PRODUCERS?

BY R. DAWSON HALL
Managing Editor "Coal Age"

At the meeting of the West Virginia Coal Mining Institute someone remarked that he had seen a mine shovel load 450 tons in a day with only four men and a mule, one of the men being the driver of the mule. The statement created no little excitement till it was added that this achievement was performed, not in a coal mine, but in a salt mine. As soon as it was learned that this work had been accomplished at Retsof, in the State of New York, interest ceased as if no mining experience except in the mining of coal is considered by coal mining men of any importance.

The incident at the Huntington, W. Va., meeting, just recalled, was stamped as the normal attitude of the coal mining fraternity by another incident which almost immediately followed. Someone called attention to the fact that at the Inspiration Consolidated Copper Co.'s mine, according to the report of 1918, the production of ore per man, including all the men in and around the mine, was twenty-one tons per man shift. Just as it was declared in the case of the loading shovel that the area which could be excavated without support was large and so large methods could be employed without difficulty, so in the case of the Inspiration Company an attempt was made to show that peculiar conditions existed. True the material at Miami, Ariz., is soft—it is porphyritic ore. True, also, breakage is not a consideration and the ore is delivered by gravity. Breakage, however, is not a consideration in many coking-coal mines, and gravity is a decided help in many anthracite mines, but somehow such results as these are not obtained.

The answer "metal mine" or "not a coal mine" is not a fair one. It is merely a plea of avoidance against a perfectly logical deduction that there is no great difference between metal mining and coal mining, between the mining especially of one non-metallic mineral and another.

A broad view of both fields is really necessary if we would keep up with progress. In some lines coal mining is daily outstripping metal mining and metal mining outstripping coal mining, and both are all too slow to learn from one another.

But, to return to the costs of breaking down and loading material, it may be said that the Inspiration Consolidated Copper Company puts the gross cost of mining in 1917 at 72.39 cents per ton of ore. In that year the average output of ores per man shift for all men whose wages were chargeable to the mining department was 17.26 tons. This included, we

are told in the report, the work of the surface as well as the underground men, supply men, chemists, samplers, engineers, etc. At the mines of the Alaska Gold Mines Company in 1916 the ore production cost was only 31.31 cents per ton. In the Alaska Juneau Gold Mining Co.'s report, stoping was set at 76.63 cents and tramming at 9.23 cents, the stoping and tramming costs together reaching only 85.86 cents per ton. It has been estimated, perhaps none too conservatively, that this cost will ultimately be brought down to 40 cents per ton. It should be noted further that in the gold mines mentioned the material mined is quartz.

The mining of these metal mines is done wholly by day labor, a form of service which is always regarded as inefficient. We are constantly being told that if we cannot stand over the laboring man and dog his footsteps he will not do a day's work. Yet here is a metal mine, the Inspiration mine, so run that no effective supervision is possible but where the tonnage averages twenty-one tons per man shift. How is this done?

Has it ever occurred to you that in the mines some of the most efficient work is done by the day laborer? We keep the day worker steadily at his work. Do we find the driver waiting for cars, we either put him in another heading where cars are plentiful or we lay him off for the rest of the day. We don't let him waste time at the expense of the company. On the whole drivers do good service.

Especially are motormen doing good work. Most of the operators have some means of keeping record of the performance of their "motormen" which shows just what the tonnage is, to any given hour, how many cars the locomotives hauled in each trip and the causes for all delays. If the locomotive is idle, in goes the mine foreman to clear up the tangle; if it is off the track in a wreck, the whole tippie force takes acetylene lamps and iron pries, and soon straightens up the difficulty.

It is clear, then, that with our day hands we have coordination. The difficulties of the day hand are our concern; they are our problem. Conversely it may readily be shown that the difficulties of the miner do not concern us. When we find him sitting idly in the heading, we say that the "motor" trip is in the next heading and will be back after a while. We counsel patience and do it as beneficently as we know how.

As a matter of fact we realize that the

delay is not our problem but rather his, that we have in a measure schemed that delay, knowing that if the "motormen" were numerous enough to furnish really adequate service the irregularities in the work of the men at the face would keep the "motormen" idle or running light much of the time and that would be unprofitable.

We are like the United States Railroad Administration. It figures that it can save clerk hire at the stations by providing inadequate clerical service. As a result it is not uncommon to see fifty people in queues at the Pennsylvania Railroad Station in New York waiting to buy transportation—the time of each of those fifty people being at least as valuable to them as the time of each of say four Pullman clerks is to the Administration.

It is only human nature to take care of the day worker and let the piece workers—or the public—wait. Yet in another sense it is not only human nature, it is self-defense; for if an operator would coordinate with his men regardless of whether they were piece workers or day workers, his cost of coal production would be abnormally high, and he would have to give up the business.

If, however, he has only day workers he will find coordination possible and advantageous, for if we can only remove the waste moments of the miner for which he has to pay under a day-work plan, then he can get more coal from the face. His problem ceases to be one of coordination with the driver and the motorman only and becomes one with all the forces in the mines. Transportation may be less regular underground when such coordination takes place. It may pay the operator to keep a few drivers or "motormen" waiting if he can save thereby some of the otherwise unutilized day-paid labors of the more numerous miners.

During the war some remarkable tonnages were made by certain individuals. We probably did not hear of a tenth part of all those actually made. Let me recall a few of these records, so that you can realize the large possibilities where there is proper coordination between the managing forces and the miner and when production is held as more important than profit. Let me quote from the records as they appeared in "Coal Age."

"The largest wage paid in Monongalia County (West Virginia) to any coal miner was probably that paid during the month of September, 1918, to Lawrence Finzel by the Hartman Run Coal Co., whose mines are near Sabraon. The payroll of the company shows that he received \$716.40 for the month of September. He loaded 417 cars or 730 tons during the month. In the first half of the month he loaded 201 cars and earned \$281.40. In addition he earned \$57 for labor performed. Thus he received a total of \$338.40 for the first two weeks in September.

"In the last half he loaded 216 cars, earning \$378, thus making the grand total—'grand total' is right—of \$716.40. If he keeps up the rate, Finzel will make \$8,596.80 a year, an annual income which few industrial managers can duplicate.

"Harry Pyle, a miner employed by the MacGregor Coal Co., at the No. 1 Bando mine, near Rockwood, Somerset County, Pa., earned \$516.10 from July 15 to August 16, 1918. As this period includes twenty-six working days his earnings averaged \$19.85 per day. The work for which he received the pay stated included the mining by hand of 410.26 long tons of entry coal, the lifting of 34 yards of bottom at \$2 per yard, the lifting of 10 yards of bottom at \$1 per yard, and the working of two hours at 64½ cents per hour. The coal mined by Pyle per day averaged 15.78 long tons (17.57 short tons). The seam in which he worked was only about 4 feet thick. He started the last half of August by mining 22, 21, and 18 tons in three consecutive days.

"William Bumpus, a colored man who is engaged by the Carbon Fuel Co., to load coal at its North Carbon mine, Decota, Kanawha County, W. Va., loaded in July, 1918, 650 tons of coal and handled 70 tons of slate, yet he laid off three working days in that month so that he could work in his war garden. The coal he works is a part of the Eagle seam, which averages at North Carbon about 4½ feet in thickness.

"Moundsville, W. Va., announces that one miner in that region, Charles Fogel by name, earned \$169.89 for eleven days' work. One day in that period Fogel celebrated by loading 30 tons 17 hundredweight. He made \$18.20 during that eight hours of work. The rate must therefore have been 59 cents a ton and the eleven days' record, 287 tons and 19 hundredweight, or an average of \$26.18 tons per day.

"John Mullins, a miner at Hemphill, Pa., who works for the Solvay Collieries Co., dug and loaded 691 tons of coal between August 15 and September 14, a wonderful record—25:59 tons a day on the assumption that he worked twenty-seven days, the number of week days occurring in that period of time. The rate paid for mining appears to have been 65 cents a ton, for the wage was \$449.15.

"At Conifer, a mine of the Allegheny River Mining Co., in Armstrong County, central Pennsylvania, we hear of a miner, Rudolph Cheney, who loaded 438 tons of coal during the month of September, 1918, or an average of 18 tons per day for every working day in the month.

"The Low Ash Coal Co., of Crown Logan County, W. Va., has a 'black diamond' who loads 26 tons of coal every day the mine is operated. Last June (1918) the mine worked only nineteen days, and this man, John Howard, loaded 525 tons of coal or 27.63 tons per day. On one of these nineteen days the superintendent was afraid that the mine could

not load all the railroad cars furnished and Howard straightened himself up and put fifty tons on the cars that day.

"Ed. Blagg, a loader in No. 1 mine of the Buckeye Coal and Railway Co., San Toy, Ohio, averaged 23 tons per day during the whole month of May, working every day he had a chance. This is about 3 tons for every working hour or 1 ton every 20 minutes. Joe Swagda is his nearest rival. He loaded 462 tons in May."

All these men loaded their coal without any help from labor-saving devices. The work was done by brute strength. There is little question but what with full coordination, not only in the supply of switches, cars, timber, rails and backsmithing, but in the matter of up-to-date equipment and a proper mining system suited to that equipment, even better results could be obtained. The reason why they are not secured is largely the slowness of turn, inadequacy of ventilation and often poorness of room tracks, which causes cars to get off the track and demand retracking.

But the big fault on the part of the operator is slowness of turn, and on the part of the miner the readiness to be satisfied with a small output, causing him to quit early when a quick turn is afforded him.

It is almost certain that if the mine work were all put on a day basis, and if all the implications of day labor in the way of coordination, system, machinery, concentration of work and supervision were properly borne in mind, we could get results from all our men comparable with those attained in the Inspiration Consolidated Copper Co.'s plant.

The Ricardo theory of farm rent is that rent is the amount of profit made in any given farm over that made in the poorest and least desirable farm in operation. The wage rate is similarly based largely on the pay received in the mine where labor is given the poorest kind of cooperation and where the difficulties in mining reach a maximum. The pay of miners today is based on the most unfavorable conditions in the least satisfactory mine with some variations to correct the conditions where they are grossly unfavorable. If we had coordinated with our men better, it is likely that the tonnage rate would have been lower and yet the men would have been earning even more than they are today. Such coordination is never possible where there is an unvarying piece rate.

We hear a great deal about the inefficiency of working men, but still more about their desire to reduce their output of work in order to have an easy time. It may be interesting for me to recite that at the International Railroad Fuel Association's meeting in Chicago, which I had the pleasure of attending, the complaint was that the firemen were working too hard. At least it was evident that they were so doing from the statements of the speakers, and it was evident also, that coal was being

wasted because of that fact, but no one rose to the point of declaring that the men were too anxious to work.

There were complaints that locomotives from the round house were fired ready for full service on the road before leaving the round house, whereas they should have had a lower pressure of steam in view of the fact that they would have some time to stand before doing their maximum work. There were complaints that locomotives popped off steam in stations and elsewhere and so wasted steam, showing clearly that the fireman was somewhat too diligent in his work. It was stated that firemen had full fires on when coming into the round houses, and thus fuel was wasted. As a matter of fact, while there is an immense amount of laziness there is a large amount of energy, and men with work that pleases them, even though the work be hard, will take a great deal of pride in doing it in a manner they think well and will often risk life and limb in a perilous and unlawful manner in order to get the work done. One cannot but believe that the amount of coal prepared by miners under a day wage would be larger than under a tonnage wage because of the amount of coordination and assistance, mechanical and other, that would be furnished by the employer. At least this is what the record of the metal mines seems to teach.

I would recommend that coal-mining engineers keep a close tab on metal-mine practice and learn its methods. The converse is also to be recommended. Metal miners should study coal-mining systems. There are a number of metal-mining systems about to become naturalized in the coal-mining fields. Notable among them is the skip system instead of the cage. The coal is dumped in the mine into a pocket. It is then loaded into a skip and hoisted to the surface. Certain methods of dealing with sludges are to be introduced for washing fine coal and for recovering the water from washing where water is in great demand.

I am convinced that many metal-mine methods of extraction could be utilized to advantage where heavily tilted measures are encountered. The experience in the metal mines in the use of loading devices is also worthy of our close attention. Two industries so near akin should not be allowed to drift apart and so learn nothing from each other. Frequently the industry of the manufacturer causes him to put his inventions to work in both fields. Frequently his vision is so narrow or his purse so small or his desire to concentrate his effort so strong that he keeps his developments in a restricted field with unfortunate results. Metal-mining systems, however, which are not patented almost always rest for a long time in a certain area of the metal-mining field, whereas they should spread not only among metal mines but also through such parts of the coal-mining field as occasion best fits.

FEDERAL TRADE COMMISSION MAKES REPORT ON COPPER COSTS

The Federal Trade Commission, in reporting to Congress on the cost of producing copper in the United States in 1918, submitted numerous tabulations and exhibits. In its introduction, the Federal Trade Commission says:

"Shortly after the United States declared war the need for some regulation of the prices of numerous important commodities became apparent, and the Federal Trade Commission was directed by the President to cooperate by ascertaining the costs of production of various commodities, among which was copper.

"In order to determine the cost of producing copper the Federal Trade Commission sent examiners in the field in July, 1917. Owing to the urgency of the work, only 24 companies were investigated at first. These included high-cost producers, as well as a number of large low-cost producers, and represented about 75 per cent of the estimated production of copper in the United States for 1916. Costs were determined for the year 1916 and January, March and May, 1917. It was found advisable before the investigation had proceeded very far to obtain the costs for the month of June, 1917, and it was the costs for this month upon which the commission made its first report in August, 1917. From this beginning the work was developed until in the later reports about 90 companies, representing over 90 per cent of the total production of copper in the Western Hemisphere, came under the commission's investigation.

"It should be understood that the commission did not fix prices. This was done by the President of the United States, upon a recommendation made at first by the Advisory Commission of the National Council of Defense and later by the War Industries Board, after considering the cost data submitted by the commission and the further facts brought out at hearings for the producers.

"The first work done by the commission's representatives in the field showed conclusively that any data gathered should be put on a uniform basis. Most of the large companies had excellent books and records, and quite a number kept depreciation and depletion accounts. There was a large number of companies, however, that kept no depletion or depreciation accounts and quite a number whose books and records were inadequate properly to determine the cost of producing copper. Some had charged to operation all expenditures at the time incurred and could show no fixed asset values of any description.

"While practically all companies now make some charge for depletion, which is usually estimated for income-tax purposes, there still exist two distinct methods of handling development charges, which will be discussed later.

"On account of the variations in operations and marketing, and even greater variations in keeping books and records, the commission devised a uniform schedule for reporting cost and investment data. The work at first resulted in schedules that were considerably more detailed and elaborate than the later ones, but the information obtained in the early work was of assistance all through the investigation.

"The commission acknowledges its appreciation of the cooperation of the copper producers and hopes that some benefit may be derived from this pamphlet both by individuals and by the industry as a whole.

"The United States produced for the year 1918 approximately 61 per cent of the world's production of copper. Of this amount about 12 per cent was produced by mines in the Lake Superior region. This copper is known to the trade as 'Lake' copper, and in normal markets usually commands the highest price. The balance of the copper produced in the United States is known as electrolytic, and derives its name from the process by which it is refined. There is a small quantity of copper produced in the United States, and marketed here and abroad without refining; but as most of the American production carries precious metal, it is more profitable to refine it. A large part of the 'Lake' production is also electrolytically refined, principally that rich in silver; but this copper does not lose its identity, still being designated as 'Lake.'

"The commission received reports from 85 companies producing copper. The production and costs shown in the tables accompanying this bulletin, represent 95½ per cent of the United States production, 94 per cent of the production of Chile, 71 per cent of Peru, 58 per cent of Mexico, 20 per cent of Cuba, and 50 per cent of Canada.

"While there was a large number of mines producing ores, most of the finished product is marketed through five or six selling organizations. The large producing companies retain title to their product through the various stages of treatment, paying toll charges for smelting and refining; and in a majority of instances a commission for selling.

"The small producers, however, sell their product to smelters in the form of ores or concentrates. The net price re-

ceived for the ore is usually the sales figure appearing on the books.

"The price of copper, while used by the smelter in calculating the value of the ore or concentrate, does not as a rule, enter on the books or records of these producers, all calculations being based on the ton of ore or concentrate.

"Likewise, freight to the smelter is usually paid at destination by the smelting company and deducted on the settlement made to the producer; and, therefore, seldom enters as an item of cost.

"The smelter must of necessity make some provision for loss of metal in smelting and refining, and deducts a portion of the contents of metal in the ore or concentrate before making settlement. The producers, therefore, who sell their product to the smelters invariably set their production of copper as the total metal content though this quantity is never recovered in the form of refined copper.

"In addition to the deduction of metal to cover the losses in smelting and refining, as well as the cost of refining and freight to the refinery, the smelter makes a treatment charge designed to cover the cost of reducing the ore or concentrate to matte. Penalties for excess insolubles and bonuses for iron and lime are also charged, depending on the character of the ore and its desirability in connection with other ores available in the vicinity. The deductions and charges, of course, are also designed to yield a profit. There are a great many considerations that enter into the purchase of ores and as each mine makes a separate and specific agreement with the smelter for the purchase of ore or concentrate, the terms of the contract vary, not only for different ores and companies, but for the same ores and companies.

"The integration in industrial organization, as well as the variations in methods of mining and reduction and the character and location of reduction plants, permit of no classification of companies that would hold for all purposes. It is true that the Federal Trade Commission has classified copper producers into (1) 'those companies who sell their product in the form of ores and concentrates, mattes, etc.'; and (2) 'those companies who sell their products in the shape of refined copper.' Such a classification was necessary for the purposes of the commission.

"Other classifications may be made, viz., as to product manufactured (1) lake; (2) electrolytic, etc. As to method of mining into (1) underground; (2) open pit, etc. As to the method of reduction into (1) those which mine, concentrate, and smelt; (2) those which mine and smelt; (3) those which mine, leach, and refine, etc., with further classification based on refining and other toll operations.

"The so-called 'porphyry' companies generally mine and concentrate and pay toll for smelting and refining. Some of the large underground mines own their smelters, but a number do not find it necessary to concentrate their ores. A few companies produce refined copper wholly within their own operations; but the great bulk of copper must stand toll charges at some point and in fact practically all copper produced must pay transportation toll before it reaches the Atlantic seaboard.

"The words 'cost per pound' have been used for many purposes and by so many people that quite naturally the words have several different meanings. For the purposes of the commission and as used in this report the cost per pound of copper is the cost of a pound of copper at Atlantic seaboard. Cost includes all items of expenditure for labor, materials, supplies, and overhead; but does not include interest or income and excess profits taxes. It includes depreciation on plant and equipment, and a charge for the depletion of the ore body. Amounts received for the precious metals and other by-products contained with the copper are applied as credits against the cost of copper.

"The quantity of copper produced has likewise several different meanings. It may be the refinery production, the smelter production—that is—the contents in pounds of copper contained in the 'blister' output of the smelters—or it may be the quantity of copper contained in the ore or concentrate.

"As used by the commission, production is the same as used by the large companies. It is in some instances that quantity of copper as determined by assay contained in ore from the mine or concentrates from the mill in a given period of time less the deductions that will be made by the smelter to cover losses in smelting and refining. In other instances where the producing company owns its own smelter, it is the smelter output. As a rule, the smelter is quite close to the mine, and therefore for all practical purposes either the smelter output or the quantity of copper contained in ore or concentrate, less deductions for losses, can be accepted as the copper production.

"The purpose of this report is to present some data on the cost of producing copper and a discussion of cost accounting methods. The schedules used by the commission in ascertaining the cost of production of copper and the investments and profits of the copper industry are shown in exhibits attached to this report.

"In the accounts of the many companies engaged in the industry, no uniformity of method exists. Items are included by some that are omitted by others. In so far as it has been able, the

commission has calculated costs on a uniform basis. In many instances the methods and figures used by the individual companies have been accepted, even though there were some apparent differences. It is thought, however, that taking into consideration all these differences (exclusive of depletion) the results would not be affected by more than a fraction of a cent per pound in the cost of the product.

"The principal item of difference is in the calculation of the charge for depletion of the ore body. Two viewpoints stand out clearly in respect to the method of calculation and purposes of such a charge. For convenience they may be designated: (1) The cost viewpoint, and (2) the tax viewpoint. The commission has used the cost viewpoint in all reports, which makes an average difference of over 2 cents per pound and in individual cases as much as 5 cents from that claimed by the companies.

"The method of calculation used by the commission is as follows: The actual cost of the mineral lands divided by the tons of ore in reserve plus the tons of ore mined, gives the depletion cost per ton. To reduce it to depletion per pound, this result is divided by the recoverable pounds of copper in a ton of ore.

"The difficulties, of course, are to determine (1) the actual cost of the mineral land; and (2) the quantity of ore in the ground.

"The cost of the mineral land would appear to be an item that could be easily determined, but as interpreted by various companies, it may or may not include items amounting to millions of dollars. An illustration of this will serve to bring out the differences better. Company A purchases or acquires its mineral land and proceeds to develop it by stripping the capping from the ore. The cost of this preliminary development is charged to a deferred asset account, to be later charged to cost as the ore is removed. Company B purchases or acquires its land, but instead of charging development to a deferred account, charges its mineral land account, taking the view that until the mine is in actual operation it is proper to capitalize such expenditures.

"Where companies reincorporate or take over existing properties the cost of the mineral land is in many cases considerably out of proportion to the cost of land of those companies that have been incorporated for some time or secured mineral lands by payment of a nominal fee to the Government.

"The estimate of the reserve ore in the ground for deep underground mines often involves considerable guess work; and while the porphyry companies have by churn and diamond drilling determined

the extent of the workable ore bodies, here also are unknown quantities as evidenced by such terms as 'probable ore' and 'possible ore' used by the engineers in making estimates of the ore reserves for those properties. Furthermore, some companies are retreating tailings and all companies are carefully impounding their tailings with a view to utilize them in future. This further complicates the depletion calculation as it raises the recoverable contents of ore already mined.

"For income tax purposes, the mineral lands are valued as of March 1, 1913; and depletion is based on this valuation. As a rule, the corporation sets up an asset usually called 'revaluation of mining lands' and a corresponding debit to 'property surplus.'

"As the ore is mined, a charge is made to costs for depletion and a reserve set up for a like amount. When the ore has been exhausted, if depletion has been estimated correctly, the reserve for depletion will equal the total value of the mineral land, including the amount set up as 'revaluation' or 'appreciation.'

"Up to the year 1917, few companies reported depletion as a cost; whereas practically all companies now include such a charge based on the revaluation of their mineral land. This is one of the largest single factors accounting for the apparently large increase in the cost of producing copper in the last year or two.

"Depreciation appeared on the books of mining companies at about the same time as depletion and for the same reason. Unfortunately the rates are not based on the life and residual value of particular assets; but are more often arbitrary amounts based sometimes on what will be allowed as deductions on tax reports and sometimes on the best judgment and opinion of officers or directors.

"The commission has not attempted to equalize depreciation for the various companies, usually accepting the depreciation charges as made by the company. In some instances, however, the cost of shafts, tunnels, openings, and underground equipment charged to cost in prior years has been set up on the books and depreciation again charged into cost. The commission did not allow depreciation of this nature, the amounts in any case being but small.

"There are two distinct methods of accounting for development: One method generally in use by the porphyry companies is to set up as a deferred charge the entire cost of developing such as stripping the capping and waste from the top of the ore body when steam shovels are used or the cost of driving tunnels, cross cuts, etc., where the caving or slicing systems are used. This deferred development

account is credited and costs are debited periodically as the ore is removed. This charge is based on the engineer's calculations and is designed to absorb the cost of development by charging it into cost on the basis of the tonnage uncovered during the period in which the ore is removed.

"The other method usually practiced by deep underground mines is to charge the cost of development work to operations at the time incurred. This is far less accurate in many cases than the preceding method, as during the past year or two the shortage of labor has prevented most companies from doing a normal amount of such development in mines that under normal conditions kept development work two years in advance of operations have dropped to as low as one year's advance. Consequently if such work had been done on a normal scale the costs of production would have been somewhat higher."

VARIED STATISTICS TO BE GATHERED DURING CENSUS

That the Fourteenth Decennial Census, on which the actual enumeration work will begin January 2, 1920, is to be the most important ever taken is shown by the fact that the act of Congress providing for this census expressly increased the scope of the inquiries so as to include forestry and forest products, two subjects never covered specifically by any preceding census act.

The inquiries to be made relating to population, manufactures, mines, quarries and agriculture were also extended in their scope by Congress, the keenest interest over the forthcoming census having been shown by the members of the census committees of both the House and Senate while the law was under consideration.

The statistics gathered on mining will include all oil and gas wells. Many startling developments in this important branch of the nation's resources are looked for by census officials. The figures gathered in Texas, Oklahoma and Kansas will no doubt prove to be those most eagerly sought for, as shown by inquiries already received by the Census Bureau.

The compilation and gathering of forestry and forest products statistics will be in charge of a special force of experts. The accurate and comprehensive figures gathered concerning this vital natural resource will be much in demand, and the comparisons made with conditions existing before the war will be of great interest.

Agricultural statistics will likewise be the subject of special effort on the part of the Census Bureau as the importance of farming is being realized by the average citizens far more than ever before.

ECONOMIC LIAISON COMMITTEE

By H. C. MORRIS

A weekly interdepartmental conference, called the Economic Liaison Committee, has now been functioning in Washington for more than six months, and its accomplishments and gradually evolved purposes, are sufficient to show its definite value to the Government as a whole, and to every participating department, commission, and bureau.

The deliberations and reports of the committee cover a wide range of subjects such as cotton, coal, petroleum and finance, and are necessarily confidential. The discussions and reports are participated in by economists and experts from the various departments and while they are in no sense official expressions of opinion of the department heads, still they are the mature thoughts of the men directly interested in the especial subjects under discussion.

Such discussions serve to inform each department of the thought in every other department on any particular question, and to coordinate the thoughts and activities of the specialists of all departments with a thoroughness that would be otherwise impossible.

The desirability and advantage of such cooperation and coordination needs no argument.

The entirely unofficial status of the committee and its voluntary character are analogous to the periodic conferences of department representatives in large business organizations where discussions of interlocking and perplexing problems are discussed, and solutions agreed upon to the material advantage of the business as a whole, and every department concerned.

Of such a nature is the Economic Liaison Committee.

Silver Price Doubles

Silver production for the United States in 1918 amounted to 67,810,129 ounces. Production has been gradually decreasing since 1915, when it amounted to 74,961,075 ounces. At that time the average price of silver was \$0.507, whereas in 1918 the average price was \$1 per ounce.

ALL TRANSPORTATION JOINED IN GIGANTIC UNITY BY CUMMINS BILL

The Cummins Railroad Bill is one of the most voluminous legislative measures brought before Congress in recent years. The print covers 108 pages and deals with the entire transportation problem in a more inclusive manner than has ever been attempted in a single measure. It covers the entire reorganization of the railroad systems of the country, provides for coordination of the rail and water transport systems inside the U. S., and for intimately correlating the railroads systems with the maritime transportation systems which, under the American flag, reaches to the entire world. In short, the scheme is nothing less than to organize together in one gigantic unity, under effective federal control, but in private ownership, all the instrumentalities of river, canal, rail and ocean transportation, and to subject them to a single federal administrative authority.

The bill repeals the act of March 21, 1917, except as to the provisions for settling up the problems involved in federal control. The Government is to carry, for a period not exceeding ten years, the indebtedness of the railroads to it on account of moneys advanced, chargeable to capital account. That is, advances by the Government to the companies during the period of federal control, which were expended in additions and betterment, will not be required to be repaid immediately, but the Government will take evidence of the companies' approximate indebtedness to it. Advances of this character amount to about \$1,200,000,000. The figure may prove less, but the accounts are not nearly up to date and only approximation is now possible.

From this amount owed by the companies to the Government will be deducted amounts which the Government owes to the railways for services rendered. In addition to these amounts, certain other advances made by the Government, amounting to probably about \$300,000,000, to meet deficits in the cost of operation during federal control, will be carried by the Government on demand notes of the companies at 6 per cent. These last mentioned advances represent expenses that would have been paid from current income if the income had been sufficient.

Also, the bill provides for return of the working capital that was taken over with the roads. It is not yet possible to state what the amount is, but the bill states that the amount to be returned on this account shall in no case exceed the cost of operations of a road for a month. The committee's information is that the aggregate of these amounts will be about \$200,000,000.

The bill provides for the return of the roads to their proprietary companies at midnight of

the last day of the month in which the bill shall become law. It undertakes to reorganize the regulation system so as to eliminate the difficulties of the old system of railroad control. Under that system different roads had widely varying earning capacity. A road with a large earning power, in competition with another having a small earning power, might earn 15 per cent on its investments, while the poorer road on exactly the same schedule of rates, would earn perhaps 3 or 2 or 1 per cent. The committee has concluded that the old regulatory plan was a failure because of the tendency to exaggrate the discrepancies in earning capacity. The policy of the bill recognizes that the only way to remove these discrepancies was through consolidation. If all the roads could be consolidated under a single corporation, the problem of adjusting rates would be perfectly simple. That plan was rejected, and then the alternative was to consolidate the roads into a fixed number of systems, each being able in the aggregate to sustain itself, and all being able to earn about the same returns on their capital.

Accordingly the bill provides that the roads shall be distributed in not less than 20 nor more than 35 systems. This distribution shall be made after a careful inquiry in which the companies, investors, the states, the business interests, and every other interest concerned will be entitled to a hearing. The plan will preserve competition in service, which the committee has been convinced is very necessary. Thus, between New York and Chicago it is expected there will be four or five competing systems, preserving the incentive to the best possible service. The committee is convinced that unification in a single system under private ownership is impracticable, while unification under public ownership was rejected at the outset, not more than one member of the committee favoring it.

The foregoing states the underlying principles of the legislation. To accomplish it in operation, the bill provides for the creation of a Railway Transportation Board of 5 members appointed by the President, at \$12,000 per annum. This board shall immediately on organization take the question of organizing the roads in systems. When the project is completed the scheme of system organization must be submitted to and approved by the Interstate Commerce Commission.

A period of seven years from the passage of the act is allowed for voluntary consolidations into these prescribed systems. Any railroad company may apply for consolidation with another, but all the voluntary consolidations must harmonize with the general plan so that the process shall lead to the perfected scheme of consolidation as outlined in the

measure. These voluntary consolidations must be approved by the Railway Transportation Board and based on valuation fixed by public authority, the aim being to settle forever the question of value and capitalization, and insure that hereafter the charge that railway capitalization is extensively widened may be put at rest. Under the voluntary consolidation, the capitalization must be equal to the aggregate value of capitals consolidated as fixed by the Interstate Commerce Commission under the railway valuation now quoted. Thus when it is complete, the total of all securities will exactly equal the value of all the properties thus determined. The same rule will apply in making the compulsory consolidations which are provided for after the expiration of the seven year period, if not all the roads have before that been included in the voluntary consolidations.

No consolidation may be carried out unless the owning company is federally incorporated, giving the U. S. full authority over it. When the period of seven years has expired, and the time comes for the compulsory consolidation, the Railway Transportation Board will have power to secure the incorporation of companies required to complete the scheme of consolidation. Back of all this is the power of condemnation, of either the railway properties or their securities.

Meantime, pending the completion of this scheme, in order to protect the public and also the weaker roads, the Interstate Commerce Commission is required to divide the country into rate-making districts. A new power of transportation regulation enters here. The commission is required to see that the rates prescribed for each rate district shall be, so nearly as possible, only sufficient to produce a net operating income for all the roads in that district of $5\frac{1}{2}$ per cent annually on the value of the property as determined by the Interstate Commerce Commission's valuation. It is recognized that there will be difficulties in ascertaining this, but the commission is required to make the best possible approximation.

This plan of valuation and limited earnings has not at all pleased the more profitable roads, which insist that the return is too low, and it has likewise displeased some important shipping interests which insist that the authorized return will be too high. The commission is authorized in its discretion to increase the fixed return to 6 per cent, but the additional one-half per cent is to be used for "non-production" improvements in the property. For example, a road having a depot that represents \$10,000 investment, desiring to replace it with one costing \$20,000, will be allowed to pay the additional \$10,000 from this fund, but amounts taken from this fund are not to be capitalized now or in future.

Now comes the feature which the committee

found most difficult. A schedule of rates which will produce an average of $5\frac{1}{2}$ per cent on all the roads, will enable the more prosperous companies to earn anywhere from 6 to perhaps 15 per cent while less fortunate ones will earn much less than the $5\frac{1}{2}$ per cent. So the bill fixes a maximum. If a company gets an operating income above 6 per cent, one-half of the excess between 6 and 7 per cent shall be placed in a company reserve fund, and the other half will go to the Railway Transportation Board, as a general railroad contingent fund. Above 7 per cent the company will place one-fourth of the excess in its reserve fund, and three fourths will go to the general railroad contingent fund. When the reserve fund has so accumulated to an amount equal to 5 per cent of the value of the property, its accumulation must cease, and one-third of the operating income above 6 per cent shall thereafter be retained by the company and two-thirds paid into the general railway contingent fund.

The company reserve fund may be drawn upon to pay dividends or interest when the company's income falls below 6 per cent, thus insuring steady credit. The general railway contingent fund will be used for the general advance of railway interests, such as provision of new facilities, necessary extensions and the like. It may also be used to buy equipment which may be rented to weaker roads, or it may be loaned intact to them.

The issue of all securities is put under absolute Federal authority to prevent watering them, and also to protect the railroads against the evil of too much regulation. State commissions or other authorities will hereafter have absolutely no control over capitalization of railways which becomes an exclusively federal function. This control of transportation will be exercised by the Railway Transportation Board. The aim has been to relieve the Interstate Commerce Commission of some of the manifold duties heretofore imposed on it. Accordingly, the following functions and powers now exercised by the Interstate Commerce Commission are also transferred to the Board:

Administration of the "car service act" of 1917.

The legislation relating to construction, maintenance and operation of switch connections and sidetracks.

Administration of the safety appliance and other acts to promote the safety of both travellers and railway employees.

Administration of the legislation relating to the hours of service of railway employees.

Administration of the legislation relating to transportation of explosives and other dangerous articles.

Administration of the legislation for establishment of block signal systems.

The powers of the Interstate Commerce Commission are greatly enlarged as to dealing

with the division of joint rates among two or more companies, in order to enable the short lines to earn living returns. The committee became convinced that the short lines have not been getting a fair division, that they have been completely in the power of the long lines, and that they must be treated more generously or they can not survive.

The procedure in settling disputes which involve state and interstate rates is set forth with much detail, and it is believed a plan has been perfected which will insure the end of conflicting authorities in this regard. When a state rate discriminates against interstate commerce or localities, the Interstate Commerce Commission is given the complete authority to determine the manner after hearing the state authorities as to state interests. The Interstate Commerce Commission and the state public utilities commissions concerned may sit together during their investigation, but the members of the state commissions will not participate in the voting which will decide the issue. The Interstate Commission is given in this connection the power to substitute a specific new rate for the rate which is found unreasonable. It has never had this power before.

The Interstate Commission is given power to name minimum, as well as maximum rates. For many years it has had the maximum rate power, but not authority to name minimum rates. The broadest powers are conferred as regards the use of railroad property. The commission may order the common use on terminals, thus unifying the service and preventing waste. In all these regards, the committee has sought to secure the benefit of complete unification such as would be produced under government ownership while avoiding the many disadvantages of government ownership.

One of the most important features is the advance in dealing with water transportation. It is declared the national policy to encourage water transportation, and accordingly the Interstate Commission is required to familiarize itself with the facilities of all water commerce, and given power to bring about the coordination of water and rail facilities. This goes even to the extent of investigating types of boats adapted for various services, requiring establishments of water terminals where they will be convenient also to the railroads, and of cooperating with communities which desire to establish water terminals, concentrate their dock facilities, and the like.

Another very important advance concerns relations of the railroads with maritime shipping. The Shipping Board is about establishing a large number of routes for sailing ships in foreign commerce. Heretofore interior communities have had no touch with and practically no knowledge of the conditions of overseas shipments. The committee has undertaken to make it as easy for the interior ship-

per to get overseas service as for communities on the seaboard. Every ocean carrier under the American flag must file a schedule of the route, sailing dates, rates and charges of every boat it operates with the Interstate Commerce Commission. The commission shall publish the substance of all schedules and provide this publication to all agents of the railroad companies.

The cost of the transfer from rail to boat is hereafter to be absorbed by the railroad carriers under rules fixed by the commission. The railroads shall issue a through bill of lading showing the cost of the rail and water services separately. The railroad is required to deliver the freight on board the boat.

The legislation dealing with settlement of labor troubles undertakes to create by permanent law the same machinery for handling these disputes that is now in effect for the period of federal railway operation. The railway transportation board is given the final determination in case of disagreement. This is complete authority as to all disputes over wages, working conditions, and the like. The Boards of Adjustment and committees on wages and working conditions, now operating under the Railway Administration, are continued for handling these disputes in the future. The boards are composed of equal numbers of representatives of the unions of employees and the companies. They will consider all disputes and, if possible, settle them by agreement; if they fail, the railway transportation board has final authority.

The anti-strike provision makes it unlawful for two or more employes, in connection with a dispute over anything that is subject to settlement through this plan, to agree together to prevent the operation of trains and railway service, or to hinder the operation of these. This applies to officers, directors, managers, agents, attorney or employes of the carriers. To aid, abet, induce or procure any act looking to the hinderance of railway service in these circumstances is made a misdemeanor, punishable by \$500 fine, or six months imprisonment, or both. The committee takes the view that they do not attempt to make strikes illegal, but merely to provide a method by which the Government will assume the responsibility for the settlement of disputes which may lead to strikes.

The long and short haul clause was the subject of long discussion in the committee. Senator Pointdexter (Wash.) urged an amendment absolutely forbidding a higher charge for a shorter than for a longer haul, the shorter haul being entirely included within the longer. This was voted down and the committee substituted a provision that the Interstate Commerce Commission may authorize the greater charge for the shorter haul after proper hearing, but that in granting this privilege no charge shall be made for a haul to or from the more distant point that is not fairly compensatory.

NATIONAL LEGISLATION

To date, November 1, 13,678 bills have been introduced in this session of Congress—10,324 in the House, and 3,354 in the Senate.

The most important bill receiving final action is the Leasing Bill, which passed the House October 30. Mr. Hawley's resolution, amending the Annual Assessment Work on Mining Claims Bill was favorably reported from the House Committee on Mines and Mining, and passed the House Nov. 1. Hearings have been held upon H. R. 170, the resolution liberalizing the War Minerals Contract Bill, and it is anticipated that the committee will make a favorable report at an early date. Herbert Wilson Smith, chief of the War Minerals Division of the The American Mining Congress, appeared before the committee in behalf of the resolution. His remarks appear elsewhere in this journal. S. 277—authorizing the absence of homestead entrymen, has passed the House and Senate, and was signed by the President September 29. The bill, providing for a tariff upon magnesite, passed the House on October 6. Mr. Fordney, Chairman of the House Ways and Means Committee, is absent from Washington, and probably will not return again this session. In his absence no further hearings will be held upon the tariff bills which are before that committee.¹ It is anticipated that hearings will be held promptly after December 1, and that these bills will be reported to the House shortly thereafter. Congressman Kahn, of California, introduced in the House, a bill for a tariff on chrome, which bill has been referred to the Committee on Ways and Means.

We particularly ask the attention of our readers to the legislative status sheets, which are included in this department in this issue. These sheets give a complete history of all of the bills which have been introduced this session, which have been previously reviewed in these columns, and we believe will be found valuable for reference.

The following bills of importance to mining have been introduced since October 1:

Labor

S. Con. Res. 9: Introduced by Mr. Kenyon and referred to the Committee on Labor. This bill passed the Senate September 4, and provides as follows:

"Resolved by the Senate (the House of Representatives concurring), That the Congress of the United States indorses the action of the President of the United States

in calling such conference and pledges to him its earnest support and cooperation for the success thereof.

"Resolved further, That the Secretary of the Senate transmit a copy of this resolution to the President of the United States."

The above resolution endorses the passage of S. J. Res. 80, introduced by Mr. Kenyon, which passed the Senate August 1, 1919, and the House August 2, 1919, authorizing the President to call a national labor conference in Washington.

H. R. 9975: Introduced by Mr. Newton, referred to the Committee on Immigration and Naturalization. The bill provides for the deportation of any alien who shall willfully speak, write or publish any language intended to encourage disloyalty to the United States, or who shall use profane or abusive language in referring to the United States, its form of government, its Constitution, laws, or flag, or who shall advocate any change or modification in the form of government, or who shall in any manner teach unlawful methods of terrorism as a means of accomplishing industrial or political ends.

H. Res. 338: Introduced by Mr. Hulings, referred to the Committee on Rules. The resolution states that "Whereas it is believed that much of the unrest at the present time pervading the country, especially among those who are in ignorance of the spirit of American institutions, and, who, deceived by evil and designing men, are taught to hate American laws and all government, and whereas many citizens very carelessly regard and do not appreciate the value of law and order, nor realize the blessings of free institutions, it is resolved that the Speaker of the House of Representatives shall appoint a committee of six members, not more than three of whom shall be of the same political party, whose duty it shall be to consider and devise and report to the House, by bill or otherwise, a plan having for its purpose the educational inculcation of true principles of citizenship and the development of a proper American spirit."

H. R. 10210: Introduced by Mr. MacGregor, referred to the Committee on the Judiciary, providing for a fine of \$10,000 or imprisonment for twenty years, or both, for any person who shall be convicted of inciting, assisting, or being engaged in riot, or rebellion against the authority of the United States or the laws thereof, or who shall combine with others or do violence to any citizen of the United States or to destroy property unlaw-

¹ In a recent statement Representative Mondell, the Republican floor leader, predicts an early adjournment until December, when the next session of Congress will open.

fully. Any person so fined shall be held ineligible for appointment or election to any office in the Federal service.

H. R. 10235: Introduced by Mr. Blanton, referred to the Committee on the Judiciary. The bill provides that it shall be unlawful for two or more persons to enter into any combination or agreement to prevent or restrain any other person from seeking and engaging in work of any kind for railroads or boats carrying United States mails or engaged in interstate traffic, or to prevent the movement of United States mail, or of persons or commodities in boats or over lines of railroad engaged in interstate traffic. Persons so combining shall be deemed guilty of a conspiracy and shall be punished by a fine of not exceeding \$5,000 and imprisonment for two years. It also provides that it shall be unlawful for two or more persons to enter into any combination to prevent or restrain any other person from seeking and engaging in work connected with the mining of coal, upon which the public or railroads and boats engaged in carrying the United States mail rely for fuel. It also provides that it shall be unlawful for any person to advocate or to write, or knowingly print, publish or sell any document, book, paper, journal, or other written or printed communication, in or by which there is advised the overthrow by force or violence, the Government of the United States, or to advocate resistance by force or violence to the Constitution and Government of the United States, or by force or violence delay or attempt to prevent the execution of any law of the United States; to display or exhibit any flag, banner or emblem intended to promote or incite the overthrow by force or violence, the Government of the United States. Any person who shall violate any of the provisions of this bill, shall be deemed guilty of sedition and punished by a fine of not exceeding \$10,000 and by imprisonment not exceeding twenty years, and if an alien, shall be upon the expiration of sentence, deported from and forever barred from re-entering the United States.

Annual Assessment Mining Claims

H. J. Res. 241: Introduced by Mr. Garland, now on Senate calendar, providing for the suspension of the requirements of annual assessment work on mining claims, during 1919, is as follows: "That the provision of Section 2324 of the Revised Statutes of the United States, which requires on each mining claim located and until patent has been issued therefor, not less than \$100 worth of labor be performed, or improvements aggregating such amount to be made each year, be, and is hereby suspended as to all mining claims in the United States, including Alaska, during the calendar year; Provided, that every

claimant of any such mining claim in order to obtain the benefits of this resolution, shall file in the office where the location notice is recorded on or before December 31, 1919, a notice of his desire to hold the mining claims under this resolution.

Federal Trade Commission

S. 3223: Introduced by Mr. Norris and referred to the Committee on Patents. The bill empowers the Federal Trade Commission to accept assignment of, or license under, to develop, issue or refuse to issue licenses under, to encourage the industrial use and application of and otherwise to administer on behalf of the United States, under such regulations and in such manner as the President shall prescribe inventions, patents and patent rights which the Trade Commission deems it to the advantage of the public to be so accepted. The Trade Commission is empowered to collect fees and royalties for licensing the inventions in such amounts and in such manner as the President shall direct. Such fees shall be deposited in the Treasury of the United States and of the total amount of such fees and royalties so deposited, the President shall determine, a certain percentage to be set aside to be disbursed to remunerate inventors for their inventions, patents, patent rights, etc.

S. 3144: Introduced by Mr. Harris and referred to the Committee on Interstate Commerce. This bill amends the Federal Trade Commission Act, and provides that no person while a member, officer, or employe of the commission, or for five years thereafter, shall accept directly or indirectly any position or employment or receive any compensation for legal services from any person, partnership, or corporation whose business has been investigated or proceeded against by the commission during the time such person was connected with the commission, or with any business directly competing therewith. The bill also provides that no officer, agent, or employe of the United States who has directly assisted in the enforcement of the anti-trust acts shall accept employment from any corporation which has been either directly or imprisoned for two years or both, for violation of any provision of the bill.

The bill provides for a fine of \$10,000 or imprisonment for two years or both, for violation of any provision of the bill.

Coal

H. Con. Res. 35: Introduced by Mr. Connally, and referred to the Committee on the Judiciary:

"Whereas the President of the United States has made a public statement regarding his proposed course of action with

reference to the threatened strike in the coal fields of the United States, and his intended efforts to enforce the law and maintain the integrity of the Government of the United States: Therefore be it

"Resolved by the House of Representatives of the United States of America, that the utterances of the President of the United States contained in said statement are approved by the Congress of the United States; and that the Congress hereby pledges to the President of the United States its support in all constitutional measures which the President may take in order to enforce and maintain the laws of the United States in their full integrity."

Railroads

S. 3319: Introduced by Mr. Wadsworth for Mr. Cummins; referred to the Committee on Interstate Commerce. The bill provides that in order to make provision for the reimbursement of the United States for sums advanced to provide power, cars and other equipment ordered by the President for the railroads and systems of transportation now under Federal control, the President may upon such terms as he shall deem advisable, receive in reimbursement cash, or obligations of any carrier, or in his discretion he may accept for such motive power, cars, or other equipment, cash or the shares of stock or obligations, secured or unsecured, of any corporation not a carrier organized for the purpose of owning equipment or equipment obligations. In addition to the powers heretofore specified, the President is further authorized to dispose in the manner and for the consideration aforesaid, of motive power, cars and other equipment, provided by him in accordance with any other provisions of this section and of any obligations of carriers that may be received in reimbursement of the cost thereof. The President is authorized to execute any other powers granted by the bill through such agencies as he may determine. Section 5 of the act specifies that the act is emergency legislation to meet conditions growing out of the war.

S. 3172: Introduced by Mr. Lodge and referred to the Committee on Foreign Relations, authorizing the President of the United States in the name of the Government of the United States to call an international conference to assemble in Washington to make recommendations with a view to providing the entire world with adequate facilities for international communication on a fair and equitable basis. The bill appropriates \$75,000 for expenses of the conference, to be disbursed under the direction of the Secretary of State.

Imports

S. 3171: Introduced by Mr. Smoot and referred to the Committee on Finance. The bill prohibits the dumping of foreign goods in the United States. Considerable power is vested in the Tariff Commission, which is allowed the right to determine the cost of production, investigation as to whether the merchandise is freely sold or offered for sale for local consumption in wholesale quantities in the principal markets; is authorized to hold hearings and enter upon such investigations as may be necessary to the administration of the act; may make all rules and regulations necessary for determining, first, if a method has been employed in respect to any merchandise imported or offered for importation that is or is likely to be injurious to any industry in the United States, and second, constitutes comparable domestic merchandise. The Tariff Commission has the power to refuse entry to merchandise offered for importation which may be subject to dumping duty, when it has not sufficient information to determine whether it should certify the necessary facts to the Secretary of the Treasury, until it can complete the necessary investigations.

Section 4 provides that if the imported merchandise is purchased by or for the importer previous to importation, the dumping duty shall be twice the difference between either the foreign market value at the place of production if purchased from a foreign producer, or the foreign market value at the place in which purchased if purchased from a person other than a foreign producer, and the purchase price. Any dumping duty shall be in addition to any other duty or excise tax now or hereafter imposed by law.

This bill makes no financial provision to carry out the purpose of the act.

Revenue

H. R. 9754: Introduced by Mr. Husted and referred to the Committee on Banking and Currency. The bill creates a National Monetary Commission, to be composed of five members of the Senate, three of whom are to be members of the majority and two of the minority parties represented in the Senate, five members of the House to be appointed by the Speaker, three of whom are to be members of the majority and two of the minority parties. Any vacancy on the commission shall be filled in the same manner as the original appointment.

The following sheets show, in tabulated form, the status of legislation initiated during the extra session, which is of interest to the mining industry:

LABOR BILLS

Bill No.	Introduced By	Creating	Referred to Committee	Hearings	Appropriations	Present Status	Final Disposition
HR 6556	Mr. Mays	Establishing Bureau of Citizenship and Americanization in Labor Department.	Expenditures of the Labor Department		\$ 150,000.	In Committee	
HR 7014	Mr. Finkham	Bureau of Housing and Living Conditions in the Department of Labor	Public Buildings and Grounds	None	250,000.		
HR 7004	Mr. Kelly	Employment and Rural Homes for Soldiers, etc., through the Reclamation of Lands.	Public Lands	None	50,000,000.	In Committee	
HR 6904	Mr. Mason	Employment of Soldiers, Sailors, etc.	Appropriations	None	800,000,000.	In Committee	
HR 4830	Mr. Mason	Bureau of the Unemployed	Labor	None		In Committee	
HR 3474	Mr. Riordan	Repealing Literacy Test.	Immigration and Naturalization	None	None	In Committee	
HR 563	Mr. Johnson	Temporary Suspension of Immigration and Naturalization Committee.	Immigration and Naturalization	None	None	In Committee	
HR 544	Mr. Nolan	National Employment Bureau in the Department of Labor.	Committee on Labor	(June 19 (July 25	None	In Committee but meeting strenuous opposition	
HR 61	Mr. Lufkin	Prohibiting Immigration for four years.	Immigration and Naturalization	None	None	In Committee	
S. 1472	Mr. Harrison	Prohibiting Immigration for five years.	Immigration	None	None	In Committee	
S. 1442	Mr. Kenyon	National Employment System	Education and Labor	July 25,	None	In Committee	
HJRes 152	Mr. Britton	Calling National Conference Capital and Labor	Labor	Sept. 4	None		Passed House and Senate SEPT 4.
HJRes. 114	Mr. Sabath	Investigations regarding Insurance against Unemployed	Labor	None	50,000.	In Committee	
SJRes 80	Mr. Kenyon	Calling National Labor Conference		None	None		Passed Senate Aug. 1 Passed House August 2
SJRes 44	Mr. Edge	Commission to Devise Policy of Cooperation between Employer and Employee	Education and Labor	None	25,000.	In Committee	
HJRes 123	Kelly	Authorizing the President to call a National Conference to consider Industrial Problems	Labor	None	None	In Committee	
S. 2912	Phelan	For protection of Land Boundaries and Coast Lines	Appropriations	None	500,000.	In Committee	
HR 9174	Hudspeth	Enforcement of Immigration Laws	Immigration	None	600,000	In Committee	

TARIFF BILLS

Mineral	Bill No.	Introduced By	Tariff Amended	Based On	Hearings Held	Present Status
Antimony	HR 7193	McClennen-New Jersey	10¢ lb.	Tonnage	After Dec.	Ways and Means
Barytes	HR 7553	Rhodes - Missouri	\$10 ton 15 ton 20 ton	Crude Barytes Barium Sulphate Barium Compounds	After Dec.	Ways and Means
Chromite	HR 7553	Kahn-California	60¢ unit 65¢ unit 113¢ lb. 50¢ unit	Ore Cr ₂ O ₃ content Refractories Cr ₂ O ₃ Content Ferro Cr. Content Chemicals Cr. Con- tent.	After Dec.	Ways and Means
Graphite	HR 5941	Heflin-Alabama	1¢ per lb. 2¢ per lb. 3¢ per lb. 6¢ per lb. 5¢ per lb.	Ores under 50% Ores over 50% Refined Refined Products	September 26 and 27. 1919	Ways and Means
Manganese	HR 5216	Slomp-Virginia	35¢ per unit 75¢ per lb.	Ore Mn. Content Alloys Mn. Content	After Dec.	Ways and Means
Magnetite	HR 5216	Radley-Washington	3¢ per lb.	Tonnage	June 16-17	Passed House 10/7. Ore 3¢ per lb. Cal- cined and dead- burned 3¢ lb. Brick 3¢ lb. and 10¢ ad valorem.
Mercury	HR 6656	Lofgren-Mass.	35¢ per lb.	Hg. Content	After Dec.	Ways and Means
Mica	Bill being formulated					
Molybdenum	HR 7556	Taylor-Colorado	50¢ per lb. 70¢ per lb.	Ores Mo. Content Products Mo Content	After Dec.	Ways and Means
Pyrites	HR 5215	Slomp-Virginia	15¢	Unit of Sulphur	After Dec.	Ways and Means
Potash	HR 6670	Periney-Michigan	License	\$1.50-\$1.50 unit K ₂ O	June 10-11-17	Ways and Means
Sulphur	HR 5215	Slomp-Virginia	See Pyrites			
Tungsten	HR 6637	Timberlake-Colorado	\$10.00 1.00 lb.	Ore unit 10% Products % Content	June 13-14	Passed House 8/21
Zinc	HR 6636	McPherson	1 3/4 lb. 2 1/2 lb. 1 3/4 lb.	10 to 25% ore over 25% ore blocks pigs or dust	June 16	Passed House 9/2 Ore 10 to 25% - 3¢ lb. Ore 20 to 25% - 3¢ lb.
Lead	Bill being formulated		1 7/8 lb. 2 1/2 lb. 1 1/2 lb.	blocks plates old and worn		Ore more than 25-30 lb. Blocks pigs & dust - 1 3/4 lb. Sheets 1 5/8 lb. Plates 1 3/4 lb.

Bill No.	Author	Plan	Features of Plans	Referred to Committee	Present Status
HR 4378 - S. 1256 Introduced June 2, 1919	Eesh-Pomerene	Interstate Commerce Commission Plan	Private Ownership by Existing Organizations. All financing (except issues of notes maturing in less than two years) to be approved by the Interstate Commerce Commission.	Interstate and Foreign Commerce	In Committee
HR 8157 Introduced August 2, 1919	Simms	Railroad Brotherhoods or Plumb Plan	Government Ownership. Operation by corporation controlled chiefly by employees and paying out of operating receipts a rental equal to the fixed charges on capital employed.	Interstate and Foreign Commerce	In Committee
S. 2689 Introduced August 27, 1919	Lenroot	National Railroad League Plan	ONE privately owned corporation under supervision of the Interstate Commerce Commission, the directors of which to be selected as described in the September issue of the Journal.	Interstate Commerce	In Committee
S. 2906 Introduced September 2, 1919	Cummins	Plan of Senate Committee Chairman	Private Ownership under Federal Control. All financing to be authorized by the Interstate Commerce Commission with the recommendations of the Railway Transportation Board.	Interstate Commerce	Reported out of Committee October 28th, 1919.
S. 2998 Introduced September 16, 1919	Frelinghuysen	Modification of Cummins Plan	Private Ownership and operation by National companies under Federal Charter. National Railroad companies to have twelve directors, two of whom shall be employees representing brotherhoods the remaining members to be elected by the stockholders, two of whom are to be nominated by the Transportation Board.	Interstate Commerce	In Committee

LEASING BILLS

No. Bill	Author	Committee Ref'd To	Provisions of Bill	Reports on Bills	Present Status	Final Disposition
HR 496	Mr. Ferris	Public Lands	To promote the exploration and discovery of coal, phosphate sodium, oil, oil shale or gas on the public domain. This bill also provides that no person or corporation shall have more than one coal, phosphate or sodium lease and no person or corporation shall have more than three oil or gas leases in any one state.	-----	In Committee	-----
S. 3773	Mr. Sweet	Public Lands	This bill is known as the General Leasing Bill and provides for the promotion of the mining of coal, phosphate, oil, gas and sodium. This bill passed the Senate September 4th.	Reported to House October 21st with amendments.		Passed Senate Sept. 4, 1919. Passed House Oct. 30, 1919
HR 263 HR 618 S. 2600 S. 2619 S. 2249 S. 2435	Mr. Taylor Mr. Leavitt Mr. Leavitt Mr. Leavitt Mr. Sweet Mr. Catheras	Public Lands Public Lands Public Lands Public Lands Public Lands Public Lands				
The above Bills have practically the same provisions as S. 2773 introduced by Mr. Sweet, and which is now before the House of Representatives. All action on these bills has practically come to a standstill, as the passage of Mr. Sweet's bill will produce the desired results.						
S. 2571	Mr. Rederman	Mineral Mining	The Bill authorizes the Secretary of the Interior to make experiments and investigations through the Bureau of Mines of oil shale, to determine the commercial and economic practicability of its utilization as a commercial product. \$100,000 is appropriated to meet the expenses incurred.	Reported favorably from the Secretary of Interior October 29, 1919.	In Committee	

DISCUSSION

BILL NO.	AUTHOR	PROVISIONS	COMMITTEE REF TO	HEARINGS	PASSAGE	PRESENT STATUS
S. 2189	Mr. Smoot	Providing for the agricultural entry of coal lands in Alaska.	PUBLIC LANDS	-----		In Committee Reported to Senate October 6, 1919
S. 2190	Mr. Smoot	To authorize the consolidation of government lands and of privately owned lands.	PUBLIC LANDS	-----		In Committee Reported unfavorably from the Secretary of the Interior Sept 12, 1919.
S. 2129	Mr. Smoot	To amend the act providing for the repayment of certain commissions, excess payments and purchase moneys.	PUBLIC LANDS	-----	Passed Senate Aug. 2, 1919	Reported to House September 5, 1919 No further action.
S. 1729	Mr. Smoot	To permit minors over 18 years of age to make homestead entry on the public lands of the United States.	PUBLIC LANDS	-----	Passed Senate Aug. 2, 1919	Reported to House August 22, 1919. No further action.
HR 6993	Mr. Hernandez	Making available for entry temporarily withdrawn lands in New Mexico which are specifically described and making same available for location for non-metalliciferous minerals, including oil and gas.	PUBLIC LANDS	-----	-----	In Committee
S. 2204	Mr. Shepard	Providing for a federal land settlement and homestead commeseion. The Commission shall make complete report to Congress within one year, of the methods and results of unregulated private settlement.	PUBLIC LANDS	-----	-----	In Committee
HR 8690	Mr. Taylor	Providing that homestead entrymen may make additional entries under provisions of stock raising homestead act.	PUBLIC LANDS	-----	-----	In Committee Reported favorably from the Secretary of Interior with suggested amendments.
HR 6646	Mr. Welling	Bill to cede unreserved public lands to the several states.	PUBLIC LANDS	-----	-----	In Committee
S. 2217	Mr. Smoot	To apply a portion of the proceeds of the sales of public lands to the endowment of schools or department of mines and mining.	MINES & MINING	-----	-----	In Committee
S. 1257	Mr. Myers	To provide for the agricultural entry of coal lands in the United States.	MINES & MINING	-----	-----	In Committee

SOLDIERS & PUBLIC LAND

S. 861	Mr. Smoot	To provide employment and rural homes for those who have served with the military and naval forces of the U. S., through the reclamation of lands, to be known as the National Soldier Settlements Act.	PUBLIC LANDS	-----	In Committee
HR 487	Mr. Wendell	This bill is similar to the above bill introduced by Mr. Smoot, with the exception that it appropriates \$100,000,000 to carry out the provisions of the bill.	PUBLIC LANDS	-----	In Committee
HR 5043	Mr. Eastman	To provide homes for honorably discharged soldiers and sailors and marines.	PUBLIC LANDS	-----	In Committee
HR 5830	Mr. McFarland	To provide loans to soldiers and sailors who have been honorably discharged from the Army or Navy. The loans shall be limited to \$4,000. \$100,000,000 is to be appropriated to be expended through the Federal Farm Loan Board.	SAVINGS & CURRENCY	-----	In Committee
HR 5773	Mr. Kelly	This bill appropriates \$100,000,000 to be expended under the direction of the President of the United States, to provide for the immediate and profitable employment of soldiers and sailors. The President shall appoint a director of the work, to be known as the Director of Public Construction.	APPROPRIATIONS	-----	In Committee

MISCELLANEOUS BILLS (1)

SUBJECT OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE RFD TO	HEARINGS	PASSAGE	PRESENT STATUS
ALASKA	S.2502-HR 7417	Mr. New	Authorizing the President to locate, construct and operate railroads in Alaska and providing that in order to complete the railroad before December 31, 1922 between Seaward and Fairbanks, the additional sum of \$17,000,000 is appropriated.	TERRITORIES		Passed Senate October 2nd Passed October 6. House	Public Law No. 59 Before President for Signature.
ANTI TRUST LAWS	HR 1186	Mr. Steele	Conferring additional powers on the Federal Trade Commission to investigate into cooperations and ascertain whether such licensee are conducting interstate commerce as unlawful monopolies.	INTERSTATE & FOREIGN COMMERCE			IN COMMITTEE
	HR 7783	Mr. Hersman	Amending the Federal Trade Commission Act of October 15, 1914, "An Act to supplement existing laws against unlawful restraints and monopolies."	JUDICIARY	Started Oct.28.		Hearings in Committee
	S 1383	Mr. Henderson	Making it unlawful for any common carrier engaged in interstate commerce to charge or receive any greater compensation in the aggregate for the transportation of passengers or goods or merchandise of a like class for a shorter than a longer distance over the same line or to charge any greater compensation as a through rate than the aggregate of the intermediate rates for passengers or freight.	INTERSTATE COMMERCE			IN COMMITTEE

MISCELLANEOUS BILLS (2)

SUBJECT OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE REFERRED TO	HEARINGS	PASSAGE	PRESENT STATUS
ANNUAL ASSESSMENTS: MINING CLAIMS	HOUSE 76	Mr. Foster	To suspend the requirements of annual assessment work during the war.	PUBLIC LANDS	THIS BILL WAS INTRODUCED IN HOUSE 150 WHICH HAS PASSED BOTH HOUSES		
	(HOUSE 64						
	(HOUSE 65	Mr. Smith	To suspend annual assessment work for soldiers and sailors serving with the U. S. forces during the war with Germany.	MINES & MINING	.	.	.
	HOUSE 120	Mr. Hawley	To suspend the requirements of annual assessment work on mining claims during 1919.	MINES & MINING	PASSED BOTH HOUSES	PUBLIC RES. #10	
	HOUSE 123	Mr. Penney	This bill amends Pub. Res 10 by striking out the limitation that no claimant shall have suspension for more than five claims.	MINES & MINING			Reported Favorably to the House October 21, 1919 where early action is expected.
ARID LANDS	HR 2264	Mr. Foster	Authorizing the Secretary of Interior to grant permits to explore for water beneath the surface of arid land in the State of California.	ARID LANDS	-----	-----	IN COMMITTEE
BLANK SET LAW	HR 423	Mr. McClellan	Making it unlawful upon the passage of the bill for any person, corporation or partnership engaged in commerce, to offer for sale any stocks or bonds in the United States without first submitting to the commission a notice of such offering to offer for sale such stocks, together with a report of the business engaged in, showing the amount of capital and surplus stock issued.	JUDICIARY	Oct. 7-8-9		IN COMMITTEE NO REPORT HAVING BEEN MADE AS YET.

SUBJECT OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE RFD TO	HEARINGS	PASSAGE	PRESENT STATUS
BOLSHEVISM	S. 1720	MR. KING	Providing that any association or organization proposing to bring about social, industrial or economic changes in the U. S. shall be declared an unlawful association and fined \$5,000 or three years imprisonment or both.	JUDICIARY	This Bill has been replaced by S.3317 introduced by Mr. Sterling and which is expected to have early action.		
COAL	HR 7006	Mr. HUDDLESTON	Bill to encourage the production and distribution of coal	JUDICIARY	-----	-----	In Committee
	HR7196	Mr. HUDDLESTON	Providing further for the national security and defense by encouraging the production and distribution of fuel.	JUDICIARY	-----		Pending with Sub-Committee #1.
	HR 186	Mr. TAYLOR	Authorizing the Secretary of the Interior to grant patents to cities or incorporated towns to insure a supply of coal for local industries.	PUBLIC LANDS	-----	-----	In Committee
	S.Res. 126	Mr. FREELINGHOYSEN	This bill empowers the Committee on Interstate Commerce to investigate into the causes which have brought about the increase in the market price of coal.	CONTINGENT EXPENSES	September	Agreed to in Senate	Committee now making investigations.
AMENDMENTS TO CONSTITUTION	HRes 164	Mr. GRIFFIN	Amending Article 2 of the Constitution whereby the treaty making power of Senate shall be extended to the House of Representatives.	JUDICIARY	-----	-----	In Committee
	HRRes 166	Mr. JAMES	Amending the Constitution whereby it shall be forbidden to conscript armies to serve outside the U. S.	JUDICIARY	-----	-----	In Committee
	HR7114	Mr. Campbell	To prevent the President from leaving the U. S. during his term of office.	JUDICIARY	4-----	-----	Pending in Sub-Committee No. 1.
DEPT OF PUBLIC WORKS	HR 6649	Mr. REAVIS	Creating new departments and provides for a Department of Public Works with four Assistant Secretaries of Public Works	EXPENDITURES	66	-----	In Committee

MISCELLANEOUS BILLS (4)

SUBJECT OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE RFD TO	HEARINGS	PASSAGE	PRESINT STATUS
EDUCATION	S. 829	Mr. COTY	This bill provides for an enlargement of the Bureau of Education of the Department of the Interior. The duty of such a department shall be to collect, classify and disseminate information on all phases of education.	EDUCATION	-----	-----	In Committee
	S. 834	Mr. COTY	Providing for the publication of a pamphlet to educate the public upon all political questions.	PRIVILEGES & ELECTIONS	-----	-----	In Committee
JUDICIARY	S. 870	Mr. COTY	Providing that any number of persons not less than three, the majority of whom are citizens of the U.S., desiring to become incorporated for the purpose of foreign trade, shall subscribe and acknowledge articles of incorporation which must contain the name of the corporation which shall end with the legend "Federal, Inc., U.S.A."	JUDICIARY	-----	-----	Sub-Committee #1
FEDERAL TRADE COMMISSION	S. 7144	Mr. HARRIS	This bill prohibits employees or officers of the Federal Trade Commission to accept positions with corporations which have been investigated by the Commission, for five years after their absence from the Commission.	INTERSTATE COMMERCE	-----	-----	In Committee
WORLD	S. 133	Mr. THOMAS	Authorizing the President to appoint commissioners to an international forestry conference.	FOREIGN RELATIONS	-----	-----	In Committee
FOREIGN	S. 817	Mr. BACOT	This bill is designed to promote domestic industry by prohibiting the dumping of foreign goods in the United States.	FINANCE	-----	-----	In Committee

MISCELLANEOUS BILLS (5)

THE MINING CONGRESS JOURNAL

SUBJECT OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE RFD TO	HEARINGS	PASSAGE	PRESENT STATUS
MINING ON INDIAN RESERVATIONS	HR2480		Making provisions for the current expenses of the Bureau of Indian Affairs and to provide for the mining of minerals on Indian Reservations.			Passed both Houses	Public Law 3
MINERALS ON INDIAN RESERVATIONS	HR1692	Mr. Hayden	Authorizing the mining of metalliferous minerals on Indian Reservations. This bill empowers the Secretary of the Interior to lease the unallotted lands of the Indian Reservations in the states of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Washington and Wyoming.		-----	-----	In Committee
INDUSTRIAL EXPOSITION	S. 1314	Mr. Spencer	Providing for the establishment of an International Exposition of the United States of America to be located in the District of Columbia, in the interest of commerce, mining, agriculture, labor, education, arts and science of the world.		-----	-----	In Committee
INTERNATIONAL CONFERENCE	HJRes. 152	Mr. Britton	Authorizing the President of the United States to call a national conference of capital and labor.	LABOR	Sept. 4th	-----	In Committee
	S. 3172	Mr. Lodge	Giving the President power to call and participate in an international conference to consider questions relating to international communication.	FOREIGN RELATIONS	-----	-----	In Committee
INTERIOR DEPARTMENT	HR6551	Mr. Mays	Providing for the establishment of a branch of the Interior Department in the West.	EXPENDITURES	-----	-----	In Committee
NATIONAL FORESTS	HR6542	Mr. Mays	Providing for the transfer of the National Forests Bureau from the Department of Agriculture to the Department of Interior.	PUBLIC LANDS	-----	-----	In Committee

MISCELLANEOUS BILLS (6)

SECTION OF BILL	BILL NO.	AUTHOR	PROVISIONS	COMMITTEE RPT TO	HEARD	PASSAGE	PRESENT STATUS
REVENUE							
	H.R. 336	Mr. Coddell	Creating a new system of second class mail matter in the United States.	WAYS & MEANS	-----	-----	In Committee
TAXATION							
	H.R. 725	Mr. Thompson	Imposing a tax of 1 1/2 cents for each 10 cents or fraction thereof paid for any public performance or entertainment.	WAYS & MEANS	-----	-----	In Committee
TRADE RELATIONS							
	H.R. 723	Mr. Smith	Respecting to promote reciprocal trade relations with Canada.	WAYS & MEANS	-----	-----	Amended by Committee and Referred back to House Sept. 29, 1919
MINING & MINERALS							
	H.R. 370	Mr. Garland	Providing for the equitable adjustment of claims of the producers who in good faith needed the urgent call of the Government for more speedy production of the minerals needed for war purposes.	MINES & MINING	October 22nd.	-----	In Committee
WATER POWER							
	H.R. 344	Mr. Ford	This bill provides that there shall be a Federal River Commission composed of the Secretaries of War, Interior, and Agriculture, which Commission shall have the power to issue licenses for the purpose of constructing, operating, and maintaining water projects.	WATER POWER	-----	Passed House July 31st	Reported in Senate Sept. 12, but no further action has been taken.

EXHIBITORS WHO WILL DEMONSTRATE AND DISPLAY MODERN MINING EQUIPMENT AND MACHINERY

The following concerns will have exhibits at the National Exposition of Mining Equipment to be held in conjunction with the Twenty-second Annual Convention of the American Mining Congress. These exhibits have been planned with the greatest care, and those attending the convention will find them both interesting and instructive.

Ambrine Laboratories, New York City.
American Blower Company, Detroit, Mich.
American Hard Rubber Company, New York City.
Atlas Car and Manufacturing Company, Cleveland, Ohio.
Industrial Transportation Machinery Company, St. Louis, Mo.
H. R. Ameling Prospecting Company, St. Louis, Mo.
A. S. Aloe Company, St. Louis, Mo.
Cement Gun Company, Allentown, Pa.
Cleveland Breathing Machine Company, Cleveland, Ohio.
Grether Fire Equipment Company, Dayton, Ohio.
Henderosn-Willis Welding and Cutting Company, St. Louis, Mo.
Huff Electrostatic Separator Company, Arlington, Mass.
Hyatt Roller Bearing Company, New York City.
Ironton Engine Company, Ironton, Ohio.
Jacobson & Schraeder, Inc., Chicago, Ill.
Keystone Lubricating Company, Philadelphia, Pa.
Koppers Company, Pittsburgh, Pa.
Lincoln Steel and Forge Company, St. Louis, Mo.
American Pulverizer Company, St. Louis, Mo.
Goodman Manufacturing Company, Chicago, Ill.
Multi Metal Company, New York City.
Standard Spiral Pipe Works, Chicago, Ill.
Crane Company, Chicago, Ill.
Zelnicker Supply Company, St. Louis, Mo.
Ohio Brass Company, Mansfield, Ohio.
General Electric Company, St. Louis, Mo.
Electric Storage Battery Company Philadelphia, Pa.
A. Leschen & Sons Rope Company, St. Louis, Mo.
Fred Medart Manufacturing Company, St. Louis, Mo.
Tool Steel Gear and Pinion Company, Cincinnati, Ohio.
American Atmos Corporation, Pittsburgh, Pa.
Lakewood Engineering Company, Cleveland, Ohio.
Alexander Milburn Company, Baltimore, Md.

Fairbanks-Morse Company, St. Louis, Mo.
Link Belt Company, St. Louis, Mo.
Southern Wheel Company, Birmingham, Ala.
Hercules Powder Company, St. Louis, Mo.
Mancha Storage Battery Locomotive Company, St. Louis, Mo.
New Jersey Zinc Company, New York City.
J. M. North, Marissa, Ill.
Philadelphia Storage Battery Company, Philadelphia, Pa.
Precision Instrument Company, Detroit, Mich.
Robert & Schaefer Company, Chicago, Ill.
Southern Coal, Coke and Mining Company, St. Louis, Mo.
United Iron Works, Kansas City, Mo.
Williams Patent Crusher Company, St. Louis, Mo.
Wyoming Shovel Works, Wyoming, Pa.
Greundler Patent Crusher and Pulverizing Company, St. Louis, Mo.
Broderick & Bascom Rope Company, St. Louis, Mo.
Monroe Calculating Machine Company, St. Louis, Mo.
Equitable Powder Company, East Alton, Ill.
Dinwiddie Automatic Mine Door Company, St. Louis, Mo.
Overstrom Manufacturing Company, San Francisco, Cal.
Diamond Chain and Manufacturing Company, Indianapolis, Ind.
Edison Storage Battery Company, Orange, N. J.
Walter Soderling, New York City.
Illinois Powder Company, St. Louis, Mo.
Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.
The Permutit Company, New York City.
Seibe, Gorman & Company, Ltd., Chicago, Ill.
Electric Railway Improvement Company, Cleveland, Ohio.
Hardinge Conical Mill Company, New York City.
Edward Christman, Massillon, Ohio.
Morse Chain Company, Ithaca, N. Y.
Donk Bros. Coal and Coke Company, St. Louis, Mo.
Car Dumper and Equipment Company, Chicago, Ill.
Goodyear Tire and Rubber Company, St. Louis, Mo.
James Connor, Tilden, Ill.
Mine Safety Appliances Company, Pittsburgh, Pa.
Egyptian Iron Works, Murphysboro, Ill.
Streeter Amet Weighing and Recording Company, Chicago, Ill.

Electric Service Supplies Company, Philadelphia, Pa.

Keystone Consolidated Publishing Company, Pittsburgh, Pa.

American Coal Journal, New York City.

Missouri Iron and Steel Corporation, St. Louis, Mo.

Hodges Stucco Machine Company, Cincinnati, Ohio.

Chicago Mica Company, Valpariso, Ind.

Caldera Purga Company, Chicago, Ill.

Crockwell Mine and Mill Supply Company, St. Louis, Mo.

Malcolmson Briquet Engineering Company, St. Louis, Mo.

Marion Steam Shovel Company, Marion, Ohio.

American Cyanamid Company, New York City.

In addition to the above, the following various state and government organizations will have exhibits:

State displays: Indiana, Missouri, Arizona, California, Wyoming and Colorado.

Government bureaus: United States Bureau of Mines, Geological Survey, U. S. Reclamation Service, U. S. Land Office and Indian Office.

Oil shale: Extensive exhibit prepared by Dr Victor C. Alderson, president of the Colorado School of Mines.



F. J. KATZ

Who is in charge of the collection of data on the mineral industries by the Bureau of the Census.

GUARANTEE THE FUTURE

BY DAVID WHITE

The people of the United States do not yet realize that one of our great endowments of mineral wealth is so far spent as no longer to be capable of supplying our growing wants. For sixty years the United States has enjoyed what has, in effect, been a monopoly of the world's oil. Prodigal waste and extravagance in use and lavish generosity toward other nations have been combined to more speedily exhaust this priceless heritage, in which we once surpassed all other countries. Even now, with oil bankruptcy slowly but surely looming on the horizon, the American public, with habits and necessities calling for three-fourths of the world's output of oil, is devising new ways in endless number for the more extended use of petroleum, thus increasing our consumption, all in complacent disregard of the fact that we are already consuming our stored production and drawing more and more heavily on foreign countries to meet the deficiency. A greatly reinforced army of drillers, working with unprecedented energy, is, by good luck, able at present to slightly increase our rate of output. The peak of domestic production seems practically in sight and is hardly to be put back more than five years, while it may be less than two. When it is passed and our production curve sags in the long decline, the public will recognize that, despite the help that may be obtained by distilling oil from our great oil shale deposits, at costs and through processes yet to be determined, this country will cease to dominate the oil world and must become more and more dependent on the oil supplies of other nations. It may even be that a generation soon to come will curse the generation that burned oil under boilers to generate steam.

The assurance of an adequate oil supply for the future is one of the most immediately urgent and insistent economic problems confronting the United States. Our prosperity, our civilization and our standards of living are based upon a plenitude of oil and it is essential that our people have oil to meet their needs as long as any other nation. Guarantee the future.

PERSONALS

Dr. R. B. Moore, formerly of Denver, Colo., has been appointed to take the place of Dr. C. L. Parsons, who has resigned as chief chemist of the Bureau of Mines. Dr. Moore has done splendid work at the testing laboratory at Denver and will be a highly valuable assistant to the bureau.

T. P. McDonald, of Wyoming, has returned West after spending several weeks in Washington and New York.

R. V. Norris, of Wilkes-Barre, Pa., attended the meeting of the A. I. M. & M. E. Tax Committee at Washington October 6 and 7.

R. S. Allen, formerly of the Industrial Unit of the Treasury Department, and now associated with the Lake Superior Iron Ore Association, spent several days in Washington during the month on tax matters.

Cornelius F. Kelley, president of the Anaconda Copper Company, was in Washington several days during the early part of the month.

W. G. Mather, of Picklands Mather Company, Cleveland, was a Washington visitor during the month.

Frank S. Peabody, of Chicago, attended the meeting of the Tax Committee of the A. I. M. & M. E., and the meeting of the Coal Association held in Washington early in October.

The Edison Storage Battery Company, Orange, N. J., has, beginning with October, 1919, inaugurated a house organ which they call the "Grid." The first issue is particularly attractive, and THE MINING CONGRESS JOURNAL wishes them success in their effort in this direction.

Nelson Franklin, of Denver, Colo., has been spending several weeks in the east, in the interest of the tungsten producers, and while in Washington has been making the offices of the American Mining Congress his headquarters.

Ravanel McBeth, of Wallace, Idaho, is at the Raleigh Hotel, Washington, D. C., where he will remain indefinitely.

Ross Blake, of Batesville, Ark., spent several days in Washington during the month

in the interest of the manganese producers in his district.

O. M. Bilharz recently called at the offices of the American Mining Congress, as he was a Washington visitor for several days during the month.

Falcon Joslin, after spending several weeks in Washington and New York in regard to Alaskan matters, has returned to his home in Seattle.

E. A. Dickey, secretary of the California Chrome Producers Association, San Francisco, has returned to his home after spending several weeks in Washington in the interest of the chrome producers. Mr. Dickey will be in Washington again early in December.

James L. Bruce, formerly general manager of the Butte & Superior Copper Company, Butte, Montana, has resigned that position and will hereafter occupy a similar position with the Davis-Daly Company.

Walter Douglas, president of the Phelps-Dodge Corporation, of New York and Arizona, spent several days in Washington during the month, when he was a frequent caller at the offices of the American Mining Congress.

Victor Barndt, of Nevada and California, was a caller at the offices of the Mining Congress early in October en route to New York. Mr. Barndt is interested in the Searles Lake potash project, also in the silver district of Nevada.

Justice F. Grugan spent several days in Washington during the month in behalf of the claim of the Suffren Company before the War Minerals Relief Commission.

Paul Armitage, of New York, a member of the Mine Taxation Committee of the American Mining Congress, attended the meeting of the Tax Committee of the A. I. M. & M. E., held at the Treasury Department early in October.

Mr. H. G. Nash has been appointed manager of the Huntington District, Mine Car Department, Hyatt Roller Bearing Company, and Mr. Harry D. Hynds has also been assigned to the Huntington District to represent the Hyatt Roller Bearing Company in the mine car field. Mr. Nash and Mr. Hynds will work very closely with the coal operators of the Huntington District in solving their haulage problems.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

THE MINERALS SEPARATION CASE

Upon another page of this issue will be found an extract from a report of the Alien Property Custodian, relating to the handling of the alien-controlled patents upon the oil flotation process as applied to the concentration of mineral values. The readers of THE MINING CONGRESS JOURNAL are familiar with the investigation of the Minerals Separation Company which is being made by the Federal Trade Commission, in which The American Mining Congress, through its special attorney, Mr. George L. Nye, of Denver, has presented a comprehensive brief, and in which the Federal Trade Commission is now making a thorough investigation to discover whether or not the practices of the Minerals Separation Company are justified by law.

We are very anxious to get in touch with all who have had experience in obtaining or in failure to obtain a license for the use of this process, in order that all of the facts may be presented to the Federal Trade Commission. Those who have knowledge of or experience in connection with this matter will assist our work by immediately forwarding information thereof to Mr. George L. Nye, Equitable Building, Denver, or to this office.

THE COAL STRIKE

The coal strike is not over. There were many people so trusting as to think that, when the officials of the United Mine Workers appeared in court and accepted the mandate of our Government,

which was directed not at the United Mine Workers, but toward protection for the American people and American industry, there was some significance in their action. There was a significance, but not of the kind that spells Americanism. A month has gone by, and we read daily of more mines being closed, of slowing down of industry, and already great suffering among people. We read of strike benefits being paid in defiance of the injunction, and we know that the mine workers are defying the law of the land as openly as they dare and as effectively as they can.

When John Lewis made the statement in Cleveland, in September, that "there is no necessity for a strike in the coal industry; the mine workers have no desire to inconvenience the public, halt industry and create a stagnated business condition that would paralyze the nation," he made the statement not to show what the miners were loath to do, but as a covert suggestion of what they had it in their power to do should they see fit to do it.

Labor, finding itself in the position of power, attempted to use the weapons that it decries so much when used by capital.

In the early days of labor unions, the employer, who wanted to run a shop closed to unions, told labor, in short, that if his employees did not like the way he ran his business, they were not compelled to work for him. This is the attitude on the part of capital that labor has been striving for years to correct. The effort has been largely successful. Capital grants pretty generally the

proposition that there must be a basis of understanding between its interests and the interests of labor. When John Lewis said that "the miners are not seeking a strike, provided they get what they ask for," he did exactly the same thing that labor has complained of so bitterly in capital for so many years. There is something particularly maddening in the mock humility of this address. It contains a hypocritical gentleness that hides its threat behind a smirk. This whole statement, condensed, simply said that a strike is unnecessary, provided the demands of the miners are granted.

What a masterful conclusion! We do not keep on asking for something that we have already got—we simply start in asking for more. What, after all, is the difference between saying, if you give me what I want, I won't strike, and in saying, if you do not give me what I want, I will strike?

For every bit of value that labor gave to the progress of the war by increased efficiency, it has due credit. This value was paid for in cash by increased wages. Coal miners received, during the war, the highest wages in their experience through the agreement with the Fuel Administration. But this type of patriotism should not now be a basis for an appeal for still further increases in the nature of a thank offering because we came through the war safely. We have, first, a patriotic duty to the men who actually fought. It is doubtful if the returning soldier can have much patience with the unreasonable demand labor is making on his pocketbook. What the country needs to solve its present economic problems is an increased output of the basic products of industry. What it needs to solve its industrial problems is the exercise of a little honesty and patriotism on the part of organized labor. An honest day's work for an honest day's pay and a patriotism which will not tolerate open disobedience to the Government and its laws.

THE LESSON OF GERMANY'S DOWNFALL

It is not unusual for thoughtless writ-

ers to assume that one cause is responsible for a complained-of situation which has probably been contributed to by many other causes. Just now in arguments for its repeal, the Excess Profits Tax Law is being credited with the present high level of prices. It will indeed be difficult to trace out all of the causes which have led to the present situation, except we attribute this condition in a general way to the shortage in world's products created by the world waste of war. Undoubtedly the Excess Profits Tax Law had an influence, even though slight, in bringing about the high price levels of the present time. If the writer were called upon to find a more potent cause in this behalf he would go back to that Secretary of the Treasury and Director General of Railroads to whom much credit has been given for effective executive organization of war work, who did big things in a big way, but with a reckless disregard of the cost. Wild and indeterminate contracts on a basis of cost plus 10 per cent started the great bail rolling. Wages offered and paid for service by those whose profits were measured by 10 per cent of a cost, and the greater the cost the greater the profit, set the pace which is the basis of our present high prices. A very large part of the selling price of all articles is represented by the labor involved in their production, transportation and exchange. With the Government paying ten dollars per day for untrained and incompetent help and bidding vociferously to take employes from every other line of business, a condition was created which necessarily and inevitably led to enormously high-price levels.

These wage earners were only temporarily benefited by the high wages in that all wage earners are consumers, and the high wage scale was immediately manifest in a high-priced market which, by virtue of increased wages involved in transportation and exchange, practically absorbed all the increased wages paid for production. The era of wasteful extravagance created by the reckless expenditures of money in war preparations has naturally led to a condition

from which the country will do well if it is able to extricate itself by gradual process and by intelligent foresight. To accomplish this is the grave problem now facing the nation.

It is very unfortunate that organized labor seems ready to take advantage of such a crisis to demand for itself undue advantages. Unfortunate for the country at large, and perhaps especially unfortunate for organized labor. The American people are slow to anger, but when once aroused, find ways of quick organization and rapid action. It took this country two years after many thoughtful people believed we should be a part of the great world war, to awaken this country to its duty in that behalf. But when once aroused it moved with such relentless force as to wring from the great disturber of the world's peace—the emperor of Germany—the statement that America was "war mad" and his realization of that fact led him to make immediate plans for the termination of the war.

Organized labor may well heed the lesson. The world had no universal grievance against the German Empire until it undertook to dominate those affairs over which it had no right to attempt control. The American people have no universal grievance against organized labor, until as now it undertakes to secure additional rights for itself by the sacrifice of the fundamental rights of others. Life, liberty and the pursuit of happiness are impossible when food and fuel are denied or made unavailable. Any agency which interferes with the regular distribution of life's necessities will naturally and necessarily call upon itself condemnation.

The great German Empire which led the way in world efficiency through which it was rapidly gaining domination of the markets of the world, a thing which could only be accomplished through that cheap production essential to bring luxury to the masses, has been utterly destroyed because of its attempt to get by forcible means that to which it was not entitled. Organized labor is now by forcible means attempting to

gain that which the best judgment of the world says it should not have. Germany's usefulness to the world was sacrificed to prevent its control of the world. The usefulness of organized labor may be sacrificed and if necessary will be sacrificed rather than it shall be permitted to control the country. Let organized labor remember that it cannot succeed except upon an appeal that meets the approval of the American people.

JUSTICE, FREEDOM AND DEMOCRACY

It may safely be assumed that every citizen of this country is firmly and unalterably pledged to the cause of freedom and justice and the principles of human democracy, and it may as safely be said that with few exceptions American citizens are prepared to accept the general meaning given to this expression which are accepted by the majority of our people. It sometimes seems, however, that a noisy minority is able to make it appear that these principles are only accepted with proper reservations.

At a dinner given to the delegates of the International Federation of Trades Unions in the City of Washington, Mr. Samuel Gompers is credited with making the following statement:

We are in accord with the principles and ideals of American idealism and in accord with our Government when we know our Government is following the course of freedom and justice and the principles of human democracy.

When the Government, or, I should say, the administration, and, at that, only a temporary administration, fails to stand for these principles, we have no alternative but to assert that the principles of justice, freedom and democracy must prevail over any temporary administration.

Concluding his remarks, Mr. Gompers stated:

We believe we are right and in any attempt to impose on our people conditions of affairs that are repugnant to the concepts of right, justice and democracy, we men and women of labor will stand true to the principles of freedom, right and justice in our own country.

Mr. Gompers, speaking for the labor movement in this country undertakes to

construe the meaning of "Justice, Freedom and Democracy" and to attach to these words the conclusion reached by less than five per cent of our people as against the 95 per cent who believe differently. While the right to criticize the administration for its mistakes is conceded, while the right to work for the defeat of the administration party is an inherent right of a minority, it is an entirely different thing for a leader of men to urge that it "is the duty of the men and the women of labor to stand up and protest, regardless of what the consequences may be."

This is not the first time that Mr. Gompers has voiced his determination to resist the authority of the Government whenever the construction placed by the constituted authorities upon the laws of our land shall differ with his own notions. These statements are made in times of grave internal disturbances, when the principles represented by our Government are gravely threatened by Bolshevik agitators who urge the destruction of government and everything that is a reminder of the right to private ownership of property "to the magnificent beautiful form of a man without a god, without a master and free of authority." The Russian anarchist says:

We must consciously hasten the elementary movement of the struggle of the working class; we must convert small strikes into general ones, and convert the latter into armed revolt of the laboring masses against capital and state.

Mr. Gompers says:

In the present disturbed conditions which prevail in the United States, there is no organization which has been regarded as more constructive or loyal than the United Mine Workers of America, and we shall give a good account of ourselves in their defense and in advocacy of freedom and justice as represented by the labor movement.

Mr. Gompers undoubtedly fails to realize how close a relation exists between himself and the Russian anarchist who is quoted. Until the leaders of labor realize that there can be no freedom, justice, and true democracy, ex-

cept under a government to which open resistance is treason, and in which the majority must prevail, and the majority's construction of principles as expressed through its chosen representatives and its chosen agencies, must be respected by every citizen. Unless organized labor can learn this lesson, and until it does learn this lesson, organized labor is a menace to our Government and will call upon itself the opposition of those agencies which will make for its ultimate destruction. This result should be avoided. The cooperation of laboring men is very greatly to be desired and many of those who will be forced to oppose it will do so with the greatest of regret. Organized labor's efforts to better the conditions of the working classes must be carried on by lawful methods which respect and honor the Constitution.

THE EXCESS PROFITS TAX LAW

The repeal of the Excess Profits Tax Law is being urged in many quarters. *Wall Street Journal* voices this general opinion and urges that "the public good seems to demand its early abolition." It follows with argument to the effect that the Excess Profits Tax Law "has helped to raise the price of everything that people eat, wear or use. It is one of the strongest supporters of a condition that is taking billions of dollars from the earnings of the people without any return under the guise of 'high cost of living.' It is no less than a highway robber, robbing the people and robbing the Government."

Without reference to the question of whether the Excess Profits Tax Law should or should not be repealed, MINING CONGRESS JOURNAL takes issue with the *Wall Street Journal* in its theory that the Excess Profits Tax Law is responsible for high prices; nor that it had any substantial part in bringing about the "high cost of living." No manufacturer curtailed his production because of the fact that the Government would get sixty per cent of the profits thereon. All taxes make for the high cost of living, and it matters not whether they

are paid in the form of an income tax or an excess profits tax. Whatever money is taken by the Government from the public is a burden upon that public. The assumption that the repeal of the Excess Profits Tax Law will lessen the burden upon the public is one which the *Wall Street Journal* cannot defend. The scarcity of supply and the inflation of credits are the two great causes for high prices. Extravagance in governmental expenditures is a factor, but not a controlling factor. The solution of the present problem is reasonable economy, hard work and a plenty of it.

GOOD-WILL AND LABOR

Good-will, as an asset, has a value that business concerns are quick to recognize. The good will of this country toward labor, as shown by its quick sympathy in justified strikes, had a value to labor organizations that could scarcely be reckoned in dollars. This is a value which has been largely lost. The attitude of the country toward the striking coal miners, who now covertly defy the Government, is obviously antagonistic.

The returned soldier resents the plea of patriotism based on war-time production. The worker in other industries fears the closing down, through lack of fuel, of the plant where he works, the great mass of unorganized wage earners resent the threatened increase in their already heavy burden of living cost, and the country, as a whole, feels that it is about time for the tail to quit wagging the dog.

The whole theory of our democracy is based on progress—not only progress for the nation as a whole, but progress for the individual; progress from one scale of life and of living to another. No man begrudges labor adequate rewards for its efforts. It has always been the theory of American civilization that rewards come by progress from one scale of life to another. It has never been the theory that any one class could, by its temporary position of power, wrest conditions for itself from others by force that would work incalculable wrong on

the nation as a whole. This is what the officials of the United Mine Workers would do by their present *sub-rosa* strike; a strike which has for its foundation a demand based simply on the principle, "We want what we want when we want it." Labor proposes to fix the economics of this situation very simply; merely add the increased labor cost to the consumer's price—simple for everyone except the consumer.

The reward of labor should be adequate for the work performed. It should be based upon accomplishment and not upon hours. Labor cost should represent a proportionate amount of the total cost of the completed product to the consumer, but labor should not arbitrarily dictate that the total cost to the consumer shall be increased to give the worker all he decides that he wants from his particular industry.

Here is a fundamental principle: Cost to the consumer is necessarily regulated by labor costs. All costs, from raw material to finished product, are simply accumulations of labor costs of one kind or another. The cost to the consumer is regulated by these labor costs. But the price to the consumer cannot be arbitrarily fixed by labor and then labor take from this cost what it decides it wants.

Is all the fine independence of our democracy to be swept away so that one class after another can beat up against our Government like waves against a sea wall, seizing temporary strategical opportunities and seeking selfish advantage for their own aggrandizement, regardless of the interest of all others?

Every laboring man in this country has considered himself a potential capitalist. By industrious, careful living and wise investment of his savings, he has always been able to put himself in a secure position, and has been able, if sufficiently ambitious, to build a worthy business structure for himself.

No one factor stands out in our civilization to which we point with more pride than the humble beginnings of the majority of our noted men. This is so

marked that it is almost impossible to write the life of any man who has achieved true success without giving it a "cabin boy to President" flavor. It has never been the theory of our economics that the rewards of any one class should be made so great, regardless of individual merit, that such a scale of life should be so attractive that those in it would not want to rise above it. When we reach a point in our civilization where a man is worth more from his neck down than he is from his neck up, the whole splendid structure is going to crumble.

THE PRESIDENT'S MESSAGE

The President's message to Congress discusses the labor question at considerable length, outlining the reasons for calling the present Industrial Conference for the purpose of "finding a method that will bring about a genuine democratization of industry, based upon the full recognition of the right of those who work, in whatever rank, to participate in some organized way in every decision which directly affects their welfare."

The public mind will thoroughly approve the purpose of this conference, but there will be various views of the President's statement of the labor situation, from which we quote:

"Labor not only is entitled to an adequate wage, but capital should receive a reasonable return upon its investment and is entitled to protection at the hands of the Government in every emergency.

... The right of individuals to strike is inviolate and ought not to be interfered with by any process of government, but there is a predominant right, and that is the right of the Government to protect all of its people and to assert its power and majesty against the challenge of any class."

The first of these statements will receive genuine approval. The latter, taken as a whole, also will receive approval, but there will be question as to how it is possible fully to justify the right to strike and, at the same time, "the right of the government to protect all of its people and to assert its power and majesty against the challenge of any class."

Exactly this situation is now presented. The coal strike is a menace to the safety and almost to the existence of the nation, and yet it is the natural result of the exercise by a large organization its right to strike. THE MINING CONGRESS JOURNAL believes in the right of the individual to quit work whenever he desires so to do, but the right to strike, which term as generally understood means the right to quit work in a body under the orders of an organization to which allegiance has been pledged, is necessarily subservient to the right of the Government to protect its people in this instance. THE MINING CONGRESS JOURNAL believes that the right to strike when the public interest is involved should not be permitted until after a full examination of the facts has been made by some public agency authorized to investigate conditions and report thereon. This is not an interference with the right of the individual to quit work, but it does restrain such action through joint action and under the orders of organization executives.

The right to quit work further carries with it the relative right of the employer to discharge when the service is no longer desired. Organized labor should be, and can be, a powerful agency for good in the country, but it must relinquish its grapple hold upon the throat of the public and devote its efforts to the accomplishment of those conditions which serve the public, as well as itself.

GOLD EXCISE AND BONUS

The facts concerning the monetary position of gold in the United States before the National Gold Conference emphasize the importance of maintaining a normal production of gold. The very premise of the conference was the resolution unanimously adopted November 2 at the annual convention of the American Bankers' Association, which called attention to the fact that the gold production of the United States was rapidly declining; emphasized the vital importance to the financial and commercial life of the nation that the gold reserve be protected from depletion by other than

monetary uses; and urged upon the Government of the United States the desirability of maintaining the domestic production of new gold in sufficient volume to satisfy the present anticipated requirements for gold in manufactures and the arts.

In confirmation of the action previously taken by the American Bankers' Association, Mr. Geroge E. Roberts, vice-president of the National City Bank, who served as director of the mint for so many years, made the following significant statements in his address to the Gold Conference:

"I recognize that the state of the gold-mining industry is a matter of public concern, and doubt if there is a general appreciation of the fact. . . . It is fundamental to the reestablishment of the gold standard as the basis of world intercourse that gold mining shall go on at something like the normal rate. . . . I fear that a low production of gold and an unfavorable outlook for the industry at a time when credit was being curtailed and prices lowered would have the effect of reviving all the monetary heresies of the past. We want to stand by the gold standard; it is the sheet anchor of enduring prosperity; but the gold standard will require a healthy gold-mining industry to sustain it."

Mr. John Clausen, vice-president of the Chemical National Bank, an authority on domestic and international finance, in his address on "The Monetary Position of Gold," made the following statements:

"The vast obligations piled up by the nations; the huge issues of paper currency; the refunding of debts and resumption of specie payments are among the most urgent and difficult problems with which the world is now confronted. This makes it only too apparent that gold is a necessity for the credit and financial unity of nations, and it is essential that an adequate foundation of gold be created to uphold that system."

As a result of the National Gold Conference, a resolution was adopted and endorsed by the convention of the American Mining Congress to the effect that

legislation should be introduced in Congress to impose an excise of 50 cents per pennyweight of fine gold upon gold used for other than coinage or monetary purposes, thereby creating a fund from which to pay the producers of new gold \$10 per ounce.

Inasmuch as the gold consumed in the manufacture and arts this year will exceed the amount of newly-produced gold, it is evident that the monetary reserve would become depleted by the amount of this difference. This legislative proposal, therefore, merely creates the machinery by which the consumer of gold as a commodity may pay the cost of production for the raw material to the producer thereof, in order that sufficient gold may be supplied to satisfy the present anticipated trade requirements. This proposal conforms to the request of the American Bankers' Association and conservatively states the requirements of the gold-mining industry in order to maintain a normal gold output under present economic conditions.

The proposal has received the following endorsement of Mr. John Clausen:

"I have carefully analyzed the legislative proposal suggested by the American Mining Congress for the consideration of Congress—namely, to create a fund by imposing an excise upon the manufacture and sale of gold used for other than monetary purposes, this fund to be utilized as a bonus to producers of new gold, in order to stimulate production. This plan would seem a practical solution of the complex problem with which the gold-mining industry is now confronted, since it eliminates monetary entanglements and reduces the subject to the sale of gold as a commodity in its manufactured state."

Mr. Evan Randolph, vice-president of the Girard National Bank, of Philadelphia, states as follows:

"I approve the proposed excise on gold used for other than coinage purposes. Those desiring gold for ornament should pay a premium equalling the difference between the production cost and the arbitrary coinage value, thus creating a fund to distribute to producers in order

to reimburse them for added labor and material costs."

The American Mining Congress is now formulating the bill in order to carry out the resolution adopted by the convention, that it may be presented to Congress at an early date.

PROTECTION—NOT TARIFF

The question of protection for war minerals is not primarily a question of tariff, but when this protection takes the form of tariff, such problems generally are of vital importance to war mineral producers.

When the President, in his message to Congress, says, first, that to permit foreign countries to pay their obligations to us, all barriers of trade must be let down, he suggests a remedy more dangerous than the situation which it would correct, for if minerals essential to war are to continue pouring into this country, at prices which leave American producers of the same minerals necessarily idle, where, ultimately, is the money coming from to pay for foreign merchandise?

The protection which is asked for war minerals is a protection which will allow the American industry to exist on an equal level with the foreign, but emphatically not a protection which will keep out the foreign product. Both industries can sell their products in the American market at a price which is made competitive by a protective tariff, but the American industry, operating with American labor, cannot, at this early stage in its development, compete on the same price level with longer established foreign operations and foreign labor costs.

The principle which applies to protection for war minerals is outlined in the paragraph of the President's speech, in which he asks specifically for this protection for dyestuffs and chemicals. Dyestuffs and chemicals form but one branch of war essentials. Without the essential war minerals, their efficacy would be short-lived. Let us recognize that war minerals protection is not trade protection, not a party issue, but a necessary national insurance policy.

COAL AND THE SHERMAN LAW

From the standpoint of its ability to meet the need of the nation for a fundamental and highly necessary product, the demand for which has doubled during each decade, there is nothing the matter with the bituminous coal mining industry. It has furnished the cheapest coal in the world and except during the unusual stress of war, it has at all times furnished an abundant supply of fuel at a price which has enabled the manufacturing industries of this country to pay wages to their workmen far in excess of any other nation in the world, and yet to compete with those other nations in the world's market. Its cheap coal, its always available coal, has been the basis of an industrial development not equaled anywhere or at any time in the history of the world.

From another standpoint however, there is much the matter with the bituminous coal mining industry.

First, it employs a capital far in excess of that which would be required to meet the country's demand for fuel.

Second, it employs a number of men, who must be kept available for service, far in excess of the number of men which would be required under continuous working conditions.

Third, in its operations it has wasted a very large amount of coal which should have been conserved to meet future needs, but which, because of the requirement of cheap production to meet a rabid competition, has been left in the ground in the mining operation. Practically one-half more capital, one-half more men and one-half more of transportation and distributing agencies have been employed than would have been required under ideal conditions. The bituminous coal industry of the United States has a capacity for the production of from 50 to 75 per cent more coal than the country can possibly consume. These mines must be kept in operation in order to prevent the destruction of the property by the rotting of the timbers and the rusting of machinery which quickly takes place under ground, to say nothing of the

dangers to both life and property from accumulating gases. Again, in order to meet the keen competition which an overstocked market always creates, it is necessary to operate at the fullest capacity in order that the overhead charges may be kept to the minimum.

Another disturbing factor is created by the unequal demand for coal during different seasons of the year. Heretofore coal was always available when called for, making it unnecessary for the consumer to store his coal in anticipation of future needs. To meet these seasonable demands has overburdened the machinery of production, and delivery during a few months and created a slack season during other times of the year when neither the men, the mine or the capital could be continuously employed. To equalize this demand and make it possible to continuously operate the mine, requires that the excess amount of coal required during the winter season shall be mined and stored during the summer season. The cost of storage will not be provided so long as it is possible for the winter demand to find a supply immediately available of freshly mined coal. Many believe that the storage of bituminous coal is practically impossible. The writer recognizes the difficulties involved, but still believes that it is possible by proper cooperation to stabilize and make continuous the operation of coal mines during the year by systems of coal storage not so expensive but that the additional expense would be more than offset by the advantages accruing from continuous operation.

This cooperation however, is forbidden by the Sherman Anti-Trust Law, a law which, as applied to the coal mining industry, makes for an enormous waste of man power, the waste of the earning power of a large invested capital, the almost criminal waste of fuel which some day the nation will be called upon to pay far in excess of what it would cost now to conserve and utilize these forces of production. It would seem that a nation thus wasting a national asset would be willing to permit an

effort to remedy these conditions. It is hoped that Congress will see the importance of so adjusting its requirements that, the men, the money and the resources, all essential to its future prosperity, shall not be wasted. Let the Sherman Law be so amended as to permit that kind of cooperation which during the war was required by the Lever Law. Let it not be said that activities which were enforced during the war times shall be made criminal during times of peace.

OUR MANY-SIDED GOVERNMENT

The serious-minded citizen has much to ponder over these days. He picks up a copy of his favorite daily paper, or weekly journal, and reads in the news and editorial sections of the serious danger confronting the country in the coal strike.

Industry is curtailed. Trains are being taken off the railroads, and there is grave danger of freight shipments of necessities of life being held up indefinitely. Even Broadway is in darkness, but he can get his amusement in another way. All he need do is turn a little further in the journal, and he reads: "Make this a California winter. Run away from the snow, the cold and the coal bills. Go where you may play golf and polo, etc." for a half-page at a cost, we are told by advertising representatives, of \$5,000 per page, runs this alluring advertisement, signed "The United States Railroad Administration." Truly the comic relief offered by the Government, appearing as Punch at one moment and Judy at the next, should be all that the ordinary, or garden variety of citizen should ask in the way of amusement.

Hunts Iron at Home

Germany, being stripped of her largest iron ore reserves, is prospecting for new iron deposits within her own borders. The Idarwald, near Coblenz, is a field in which exploration has recently been taking place. Although the deposits have long been known it was not considered feasible to exploit them while the more profitable Lorraine fields were available. — Bureau of Mines' report.

TWENTY-SECOND ANNUAL CONVENTION AND INDUSTRIAL CONFERENCE SUCCESSFUL

The American Mining Congress established a new record for itself in St. Louis during the week of November 17th, when one thousand accredited delegates representing twenty-two states, met in the Gate City for the Twenty-second Annual Convention. Members of the Congress, representative employers of labor, special delegates appointed by President Wilson, the governors of states, mayors of cities, county officials, commercial bodies, and mining organizations, spent a week both in consideration of the technical problems of the mining industry and in discussing the new industrial problems facing employers of labor.

From the opening of the Congress Monday afternoon until late Friday afternoon the delegates spent the time in general, sectional and committee conferences. The whole week was filled with serious work, of which one significant outgrowth will be a permanent committee on Industrial Relations, appointed from members of the Mining Congress representing the mining and manufacturing industries. This committee, authorized by the Convention, is now being organized and within a few days will lay its plans for a national investigation of the industrial situation and the ultimate working out of a program which may be presented to both labor and capital. This work will be carried on independent of governmental activities, it being the belief of the delegates to this convention that the employers of labor should thus act at the same time for their own interests and the general public, which has been the victim of controversies of this sort.

The St. Louis meeting was divided into sections representing: (a) General interests including transportation, production and marketing of minerals; (b) Gold; (c) War minerals and tariff; (d) Schools of Mines; (e) Oil shale; (f) Industrial problems. Sessions of these various sections were held in the two convention rooms of the Planters Hotel, in the banquet room of The Statler and in the big convention hall in the Old Southern Hotel, which housed the Exposition of Mines and Mining. The delegates' interested in each of the specialized subjects were gathered in these various convention halls constantly throughout the week, a feature quite unusual in national assemblies of this character. The Industrial Relations Resolutions Committee and the regular resolutions committee of the Congress worked almost continuously, the former spending 57 hours and the latter 60 hours in executive session. The results of this close application and careful consideration of the questions before these committees are evidenced in the unusually clear and direct

wording of the resolutions finally presented and which were adopted by the general convention Friday afternoon. These resolutions printed below are a declaration of the principles upon which the mining fraternity and the manufacturing interests represented at the conference stand in national matters.

Governmental recognition through the attendance at the convention, of Van H. Manning, Director of the Bureau of Mines, and George Otis Smith, Director of the Geological Survey, accompanied by many executives of the Interior Department, added greatly to the strength of the convention and the presence of official representatives of Bulgaria, Sweden, France, Russia, and Mexico gave international interest. Governor A. H. Roberts, of Tennessee, the "law and order" governor of that great State and Governor Frederick D. Gardner, of Missouri, both addressed the convention with vigor and inspiration. A figure notably interesting was Dr. Charles W. Gordon, the "Ralph Connor" of every boy's heart. Dr. Gordon told the story of the fight against the Reds when they took possession of Winnipeg for a few days last spring, driving back law and order and government temporarily.

The session devoted to war minerals relief was addressed by the War Minerals Relief Commission in person, Senator Shafroth and Commissioner Moore, and legislation for the liberalization of the war minerals relief situation was discussed. This discussion was later crystallized into a resolution adopted by the General Convention.

The session devoted to war minerals protection was addressed by various producers and operators, by E. R. Costigan, of the U. S. Tariff Commission, and by representatives of the Bureau of Mines. The necessity for continued operation of the essential war mineral industries took form in a resolution which was later presented and adopted by the General Convention.

To select any of the speakers as leading features of the week would be difficult, for each day's program was filled with big and serious work. Notable was the "Safety and Welfare" section which met on Wednesday morning under the direction of Safety Engineer Leopold, of the Bureau of Mines. The fine work of the newly organized committee on the "Standardization of Mining Equipment," which spent Sunday, Monday and part of Tuesday in the organization of a platform for future work is summarized in a report which was presented to the convention and which appears upon another page.

The organization of a "National Oil Shale



GOVERNOR FREDERICK D. GARDNER
OF THE STATE OF MISSOURI



CARL SCHOLZ
DIRECTOR
AMERICAN MINING
CONGRESS



BURKELEY WELLS
PRESIDENT



HARRY L. DAY
WALLACE, IDAHO
DIRECTOR OF
AMERICAN MINING
CONGRESS



E. P. MATHEWSON
CONSULTING METALLURGIST
DIRECTOR AMERICAN
MINING CONGRESS

Section of The American Mining Congress," a "National Section for Schools and Colleges of Mines," and a "National Section for the Standardization of Mining Equipment," added to the practical results of the big convention. The War Minerals Conference devoted three days to the discussion of problems relating to the production of the essential war minerals, covering both war minerals relief and future protection for the industries. The National Gold Conference completed and presented to the general congress a program which calls for active legislative work to protect the industry from annihilation.

Conferences of the General Committee on Standardization of Mining Equipment were held on Sunday, November 16th, and Monday, November 17th. At the meeting of this committee there was organized a National Section for the Standardization of Mining Equipment.

The American Mining Congress members meeting was attended by nearly two hundred members of the organization. Two hours of deeply interested attention was given to the annual report of Secretary Callbreath, the election of directors and the comprehensive planning for the broadened work for the future. The following directors were elected:

Thomas T. Brewster, St. Louis, Mo.; Daniel B. Wentz, Philadelphia, Pa.; R. C. Allen, Cleveland, Ohio; John C. Howard, Salt Lake City, Utah.

The directors later elected the following officers:

Bulkeley Wells, Denver, Colo., president; Harvey L. Day, Wallace, Idaho, first vice-president; Daniel B. Wentz, Philadelphia, Pa., second vice-president; E. L. Doheney, Los Angeles, Calif., third vice-president; J. F. Callbreath, Washington, D. C., Secretary.

The Congress will issue a complete stenographic report of the several conferences, in book form, for distribution to members and delegates.

THE EXPOSITION

The Exposition of Mines and Mining given by the local committee in connection with the meetings of The American Mining Congress was a credit to its sponsors, to the exhibitors and to the Congress with which it was associated. Too often the building of an exposition of this sort is a thankless job assumed by someone in a spirit of enthusiasm and often leaving in its wake a question as to the value of the expenditure of the time, money and energy necessary for its success. In this case there is no such question—no inheritance for the committee in the way of regrets. The St. Louis committee attempted the work with only fifty days leeway in which to do the work and open its doors. The task was colossal, almost impossible, but not for the St. Louisans who opened the huge exposition on time and closed with a feeling of deep satisfaction, leaving a memory of plenty of

hard work, a duty well accomplished and a general impression of the "bigness" of things and men in the convention city.

The Old Southern Hotel, roomy and admirably adapted to such an enormous exposition, was transformed for the week into a great exposition building and the 50,000 feet of floor space was filled with a mining exhibit of such educational value as is seldom assembled. The government departments included displays by the Bureau of Mines, the Geological Survey, the Land Office, the Reclamation Service, the Chemical Warfare Division and Signal Service of the U. S. Army. Illinois and Missouri did themselves proud with their mineral displays and several smaller state displays were made interesting owing to their educational features. The show made by the Miami zinc district was notable in its completeness and the showing of war minerals and oil shale products were features.

Forty thousand people visited the exposition during the week. When the main convention hall was not in use for sessions of the Congress various moving pictures were shown of deep interest to the thousands of visitors. Among the moving picture features was "The Story of Coal," a descriptive picture showing the development of coal and coal mining made by the Bureau of Mines in cooperation with the National Coal Association. "The Story of Oil," a fifty thousand dollar production furnished by the Standard Oil Company of New Jersey, was shown several times.

The resolutions adopted by the convention were as follows:

No. 1

Mexican Situation

WHEREAS, American mining engineers, operators, and employees have gone to all parts of the world and have greatly assisted in the development of mineral resources, pursuing their professions in lawful and orderly manner, with full regard for the rights of the nations in which they have worked and for their obligations as American citizens to their own Government, and

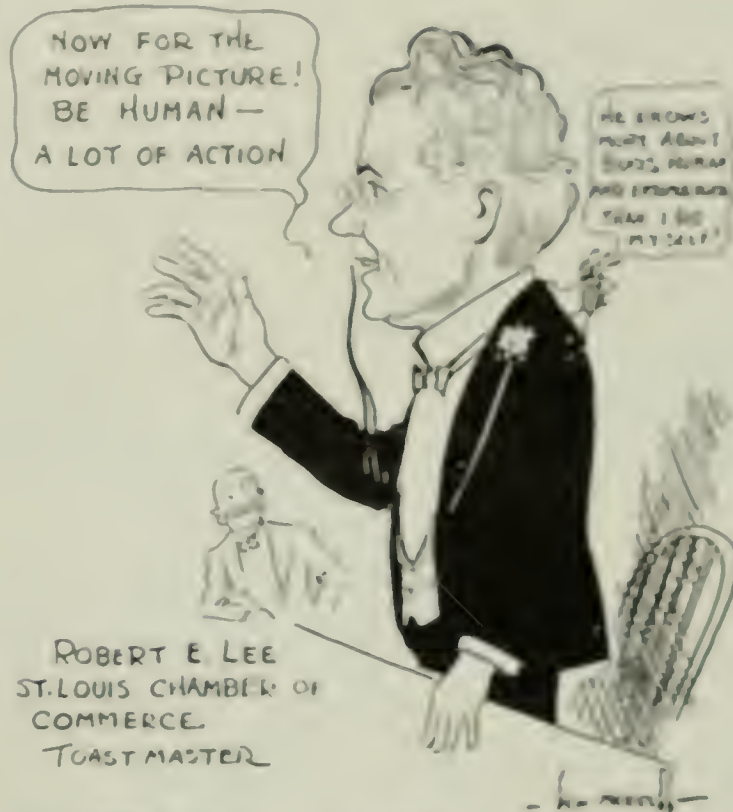
WHEREAS, In particular, on repeated invitations of the Mexican government, prior to 1910 and since, American mining engineers, operatives and employees, in large numbers, have joined in the industrial development of Mexico, to the great benefit of the Mexican people, and

WHEREAS, During recent years of revolution and disorder in Mexico many American citizens in the peaceful pursuit of their profession, and in the guardianship of properties intrusted to their care, have suffered great losses, personal indignities and injuries, and in many cases suffered death, and

WHEREAS, Steps so far taken by the Gov-



R.D. CORLETT, CHAIRMAN
COMMITTEE ON ARRANGEMENTS
AMERICAN MINING CONGRESS



ROBERT E. LEE
ST. LOUIS CHAMBER OF
COMMERCE
TOASTMASTER



JOHN T. BURNS, SECY, A.M.C. KEPT
EVERYTHING RUNNING SMOOTHLY.



B.B. CANNON WAS ONE
OF THE "OFFICIAL HANDSHAKERS".



W.K. KAVANAUGH,
PRES. SOUTHERN COAL
COKE & MINING
COMPANY, ST. LOUIS

ernment of the United States have not provided the constitutional protection which all law-abiding American citizens of right expect, therefore, be it

RESOLVED, That The American Mining Congress, assembled in annual convention at St. Louis, Mo., hereby protests to the Department of State of the United States against the continuance of policies by the American Government that make inadequate provision for the safety of American mining engineers, operatives and employes in the practice of their profession and in caring for the business interests intrusted to them, and be it further

RESOLVED, That this Congress urges that the Government of the United States demand full and immediate reparation for losses and injuries suffered by American mining engineers, operators and employes in the lawful exercise of the duties in foreign countries, and that the Government of the United States take such steps as will insure that the constitutional rights of American citizens shall protect them on our borders and go with them throughout the world, and be it further

RESOLVED, That a copy of these resolutions be forwarded to the President of the United States through the Vice-President and the Speaker of the House of Representatives.

No. 2

Reciprocity in Trade Relations

WHEREAS, American nationals do not enjoy the same privileges in the acquisition of mines and minerals, including petroleum, in certain foreign countries and their possessions, as are enjoyed by the nations of those countries in the United States, now, therefore, be it

RESOLVED, That it is the sense of this Congress that in the event of failure of efforts by the State Department to effect complete reciprocity in respect to the acquisition and holding of mines and minerals, including petroleum, then so long as such discrimination exists, the nationals of such countries should be prohibited from holding in the United States and its possessions, rights similar to those withheld from citizens of the United States in such countries.

COLONIAL SECRETARY'S OFFICE,

Trinidad,

13th August, 1919.

SIR:

In reply to your further letter of the 23rd ultimo asking to be furnished with certain information relating to the conditions under which oil bearing lands belonging to private owners in the Colony may be acquired from them, and also as to whether American capitalists might eventually be allowed to acquire

such interests, I am directed by the Acting Governor to inform you that the authority for Wardens to issue permits for the acquisition of oil rights has been revoked, but that the Crown Solicitor has, however, been given authority to issue permits when not more than 100 acres are involved. Applications for permits where not more than 100 acres are involved should, therefore, be addressed direct to the Crown Solicitor. All other applications for permits should be addressed to the Colonial Secretary

2 Application for the transfer of oil rights to American capitalists have to be referred to the Secretary of State for the Colonies, and full details of the proposed transaction will be necessary

3 Any permit for the acquisition of oil rights by a British company would provide that not more than twenty-five per cent of its capital or *voting power* is to be held by aliens, and also that the chairman and managing director and a majority of the other directors shall at all times be British subjects. The permit would also contain any other provisions which might be deemed necessary to insure the company remaining under British control.

I have the honour to be, sir, your obedient servant,

(Signed) H. B. WALCOTT,
Acting Colonial Secretary.

J. BENJAMIN PRICE, Esq.,
65 Pembroke Street,
Port-of-Spain.

October 30, 1919.

A BILL

To encourage reciprocity in trade relations

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no citizen, association of citizens, or corporation of any country which requires by law, regulation, or otherwise condition or stipulation in any contract, lease, sale, or other agreement relating to mines or minerals, including petroleum, in the said country or its possessions, or dependencies, which prohibits or prevents American citizens, associations of American citizens, or American corporations, because of their nationality, from being stockholders, or which limits the number of shares of stock or any other interest which may be held by American citizens, associations, or corporations in such undertakings, or which, because of nationality, places any restriction on American citizens holding any position in the association or corporation, or on the Board of Directors or similar control body, shall be permitted to hold, either directly or indirectly, any right, title, or interest in any mine or mineral deposits, including petroleum, in the United States or any of its dependencies, or to act on the Board or in any managerial capacity whatsoever in connection with any association or corporation having any right, title, or interest whatever in mines or minerals in the United States or its dependencies, so long as the restrictions herein described shall remain in force in any law or regulation or in any contract, lease, or other agreement to which the Government of the foreign country or any of its officials or representatives is a party.

Sec 3. That no alien association or corporation which, by its articles of incorporation or association, statutes, laws, or in any other similar manner, prohibits American citizens, associations, or corporations, because of their nationality, from being



J.E. CURRY
SEC'Y ARIZONA CHAPTER,
AMERICAN MINING CONGRESS.

MAKE
AMERICA
INDUSTRIALLY
INDEPENDENT



H.G. MACKENZIE
SECY UTAH CHAPTER,
AMERICAN MINING CONGRESS,
GOING UP THE MOUNTAINS
LOOKING FOR MEMBERS.



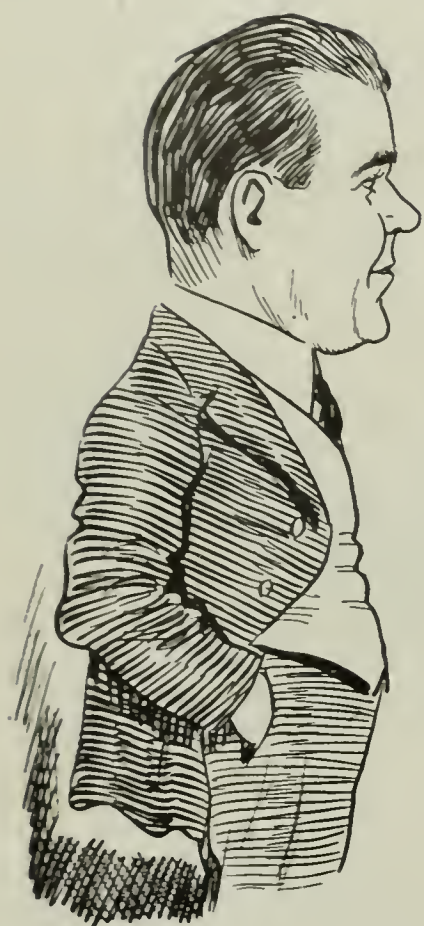
HERBERT WILSON SMITH
CHIEF WAR MINERALS
DIVISION, AMERICAN
MINING CONGRESS



GEORGE L. NYE,
SPECIAL COUNCIL
BEFORE FEDERAL
TRADE COMMISSION
FOR AMERICAN
MINING CONGRESS



JOHN A. DAVIS
GOVERNOR ALASKA CHAPTER,
AMERICAN MINING CONGRESS



DON'T WORRY
IF THE COUNTRY
STAYS DRY FOR
IF YOU'D LIKE TO
GET PIPED OC-
-CASIONALLY, SEE
C.E. AMMESON OF
CRANE COMPANY
AND GET PIPE
WITH ALL THE
FITTINGS!

CHARLES E. AMMESON
SPECIALTY DEPT
CRANE CO
CHICAGO.

stockholders, or which limits the number of shares of stock or any other interest which may be held by American citizens or corporations, or prohibits American citizens from holding any position on the Board of Directors or in the association or corporation, shall be permitted to hold, either directly or indirectly, any stock or other interest in any association or corporation which has any right, title, or interest in any mine or mineral deposits, including petroleum, in any part of the United States or its dependencies.

SEC. 3 That if any of the things prohibited in the preceding sections exists at any time, beginning two years after the approval of this act, then, and in that event, the positions so held by aliens shall become vacant and any and all acts performed by any such alien connected with such association or corporation shall be without legal force or effect, and the shares of stock or other interest so held contrary to this act shall be sold by the Attorney General of the United States to American citizens, associations, or corporations under such conditions and regulations as the Attorney General shall fix, but always within one year from the time such shares of stock or other interests come within the provisions of this act, and the net proceeds of such sales shall be paid to the alien citizen, association of citizens, or corporation concerned, except in cases where ownership of such shares of stock or interest was at the time of acquirement prohibited by law.

3 and 4 were laid upon the table.

No. 5

Mine Experiment Stations

WHEREAS, the Congress of the United States has authorized ten mining experiment stations; and

WHEREAS, four of these ten remain to be established. Now therefore, be it

Resolved, by the American Mining Congress, at its Twenty-second Annual Convention, that the Congress of the United States be urged to provide immediately the necessary

appropriations for the establishment and operation by the U. S. Bureau of Mines of these four experiment stations.

No. 6

Oil Shale

WHEREAS, The Oil Shales of the western states contain an abundant supply of oil and kindred products, locked up in such diminishing supply of crude petroleum, and,

WHEREAS, Most of such shales are located on the public domain, and a means of stabilizing the right of possession in private parties sufficient to insure an adequate return to capital invested in development is essential, and,

WHEREAS, The immediate development of a practical and efficient method of education, by a process free to all, can only be accomplished under government control and directions. Now, therefore, be it

Resolved, by the American Mining Congress in convention assembled:

1. That in the absence of legislation permitting acquisition of fee title to oil shale lands, we favor the immediate adoption of Senate Resolution 2775, known as The General Leasing Bill, as amended by the House, as calculated to furnish the best obtainable assurance of title and right to possession so essential to the investment of private capital in a new industry and,

2. That we strongly urge the adoption of Senate Resolution 2671 by Senator Henderson authorizing the Bureau of Mines to make experiments and investigations to determine the commercial and economic practicability of utilization of oil shale as a commercial prod-

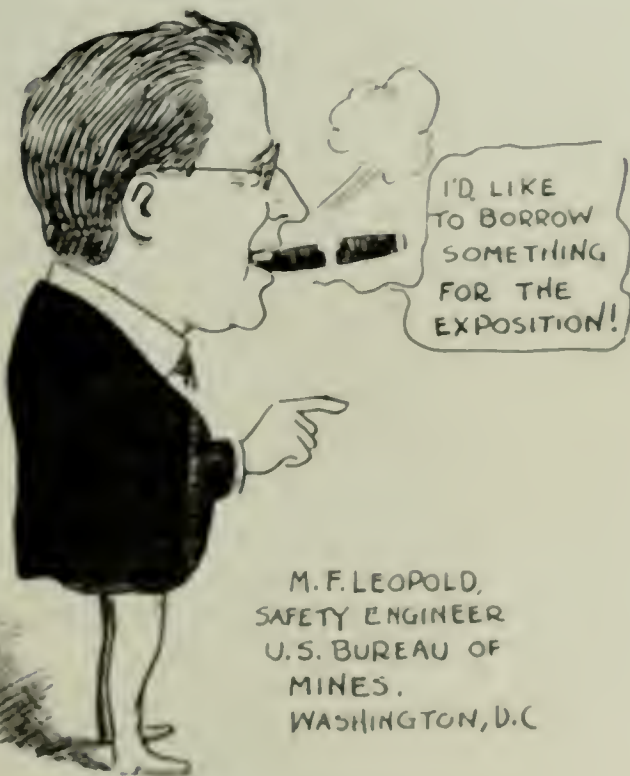




GEORGE S. RICE
CHIEF ENGINEER
U.S. BUREAU OF MINES
WASHINGTON, D.C.



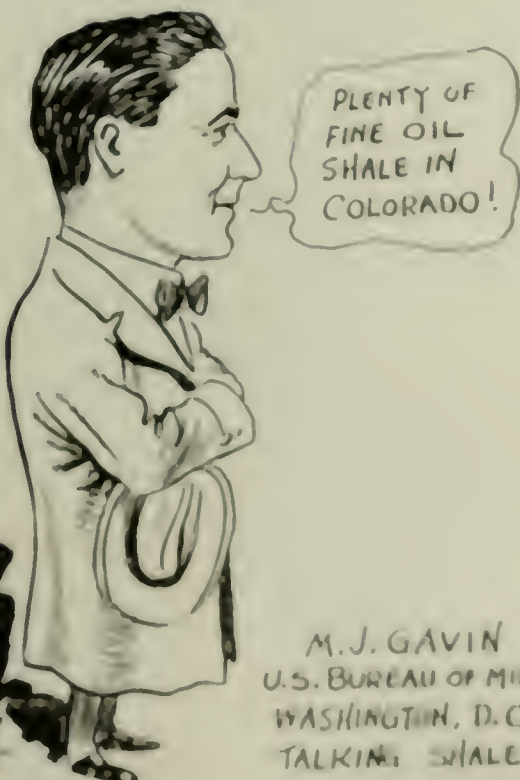
DR. VAN H. MANNING
DIRECTOR OF THE
U.S. BUREAU OF MINES



M. F. LEOPOLD,
SAFETY ENGINEER
U.S. BUREAU OF
MINES.
WASHINGTON, D.C.



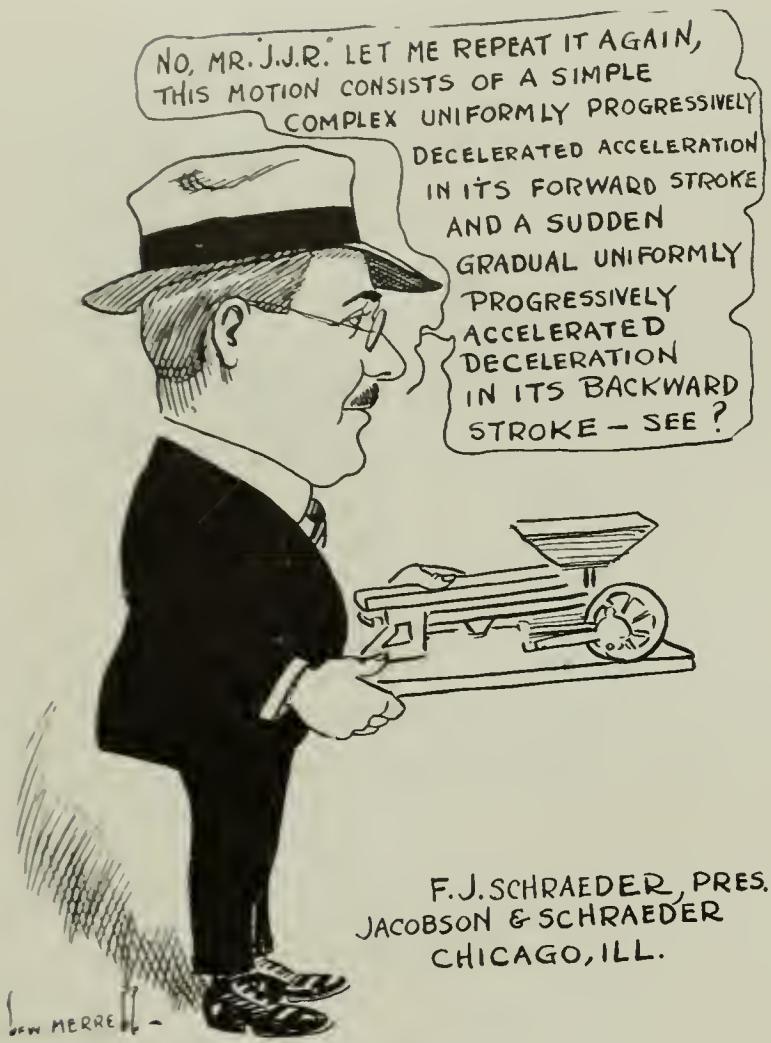
R. B. MOORE,
CHIEF CHEMIST
U.S. BUREAU OF MINES
WASHINGTON, D.C.



M. J. GAVIN
U.S. BUREAU OF MINES
WASHINGTON, D.C.,
TALKING SHALE



DR. J. J. RUTLEDGE
MINING ENGINEER
U.S. BUREAU OF MINES
MCALISTER, OKLA.



net and appropriating \$140.00 in aid thereof, and,

3. That the secretary of the American Mining Congress be, and he is hereby authorized and directed to communicate these resolutions to Senate and House Committees having these measures in charge and to use every legitimate effort to secure their early passage and approval.

No. 7

Gold

WHEREAS, The gold production of the United States which declined so rapidly during the war period has, since the signing of the armistice, still further declined because of the extreme economic pressure to which the gold mining industry has been subjected; and

WHEREAS, Gold is a standard of value and the basis of all credit and it is vitally important to the financial and commercial life of the nation that the monetary reserve be protected; and

WHEREAS, There is now being used in the arts and manufactures of the United States, more gold than the annual domestic production which is obtained under our present system from the Treasury of the United States at a net cost of \$20.60 per ounce of gold; and

WHEREAS, The actual cost for mining and producing gold now far exceeds this amount and many gold mines have necessarily ceased production and other mines in the United States, almost without exception, will be compelled to shut down and suspend their mining

operations unless relief can be provided for the present serious situation in the gold mining industry; and

WHEREAS, It is the opinion and purpose of this Congress that no change should be made in the present gold standard and unit of value for the monetary transactions of this and other civilized countries, and that no legislation should be had that would in any way invalidate the obligation of contracts as now existing. Now, therefore, it is

Resolved by the American Mining Congress in its Twenty-second Annual Session in the city of St. Louis, Missouri, that the Congress of the United States be, and it is hereby earnestly petitioned to pass such speedy and remedial legislation as shall provide the necessary relief, and we submit the following suggestion that for a period of five years from and after the passing of such legislation, there shall be paid to every person producing gold from the mines within the United States and its possessions under such terms and conditions as may properly be provided a premium of Ten (\$10.00) Dollars per fine ounce of such gold so hereafter produced; said payments to be made out of funds to be provided by an excise of Ten (\$10.00) Dollars per ounce on the use, manufacture, or sale of gold in the United States for other than coinage or monetary purposes and from other funds in the Treasury of the United States, not required for specific purposes; and it is

FURTHER RECOMMENDED, That after five years from the passage of such legislation the premium and excise so to be provided shall be adjusted in accordance with the rise or fall in commodity prices as compared with the average for the five-year period herein referred to; this readjustment and excise to be





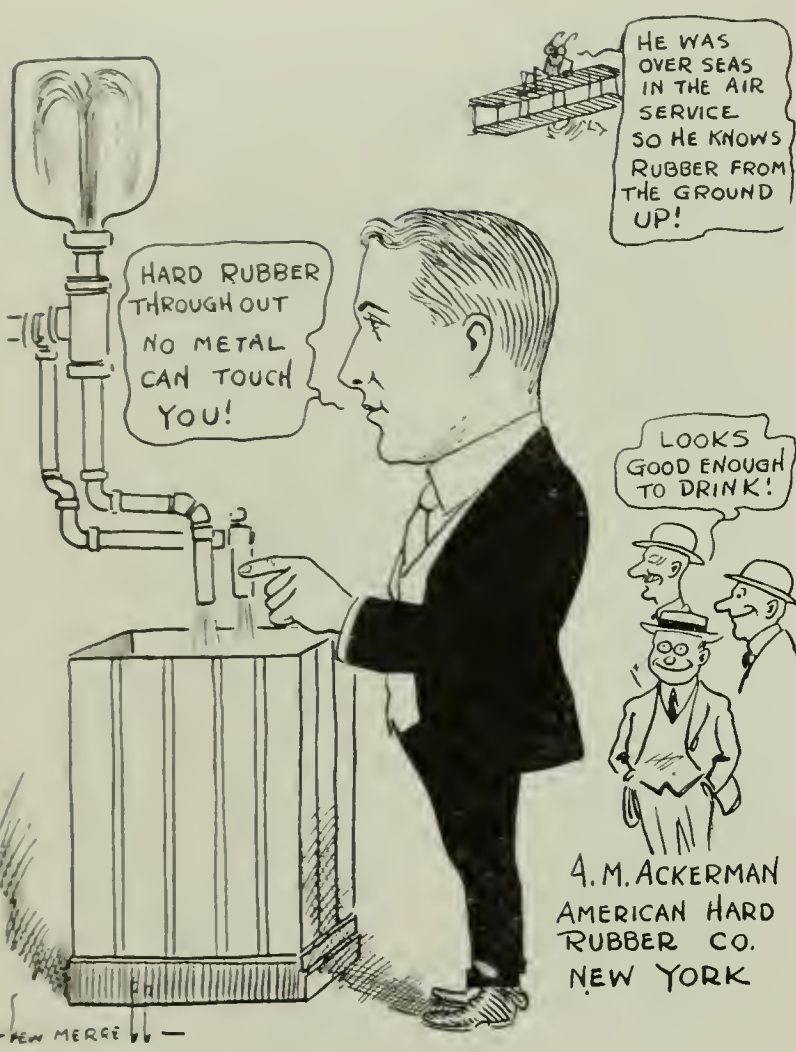
JUST A
HARD WORKING
BUSINESS
MAN IN
POLITICS!

HON. JAMES G. STRONG
CONGRESSMAN 5TH DISTRICT
FROM KANSAS.



MAJ CHARLES W. GORDON
"RAILY CONNOR"
WINNEPEG, CANADA





made each year and until such time as the premium and excise can be abandoned on account of the restoration of a price level which will satisfactorily maintain the normal production of new gold in the United States to meet all industrial requirements of the arts and trades.

Resolutions Committee,
American Gold Conference.

No. 8
Gold

WHEREAS, The present laws prohibiting the mutilation of coin seems to be insufficient to protect such coin from total destruction as money, and
WHEREAS, Such a protection should be afforded by proper laws. Therefore, be it
Resolved, That the American Mining Congress favored the enactment of such a law and requests the Secretary of the Congress to use his good offices to procure the introduction and passage of the following :

TO PROHIBIT THE DESTRUCTION OF GOLD AND SILVER COINS.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That any person who purposely and knowingly, by any art, way or means, shall, except as authorized by law, destroy any gold or silver coins, or such, which have been or which may hereafter be coined at the mints of the United States, or any foreign gold or silver coins which are by law or which hereafter may be made by law current, or are in actual use and circulation as money within the United States, shall, upon con-

viction, be imprisoned not more than five years and fined not more than \$10,000.

No. 9
Needful Railroad Legislation

WHEREAS, The American Mining Congress is composed of the representatives of an industry which furnishes more tons of freight to the railways than all other industries combined; and

WHEREAS, The greatest transportation need of this country is a large increase in railroad facilities; and

WHEREAS, The railroads of this country are engaged in a public service, the continuous rendering of which is vital to the welfare of the country. Therefore, be it

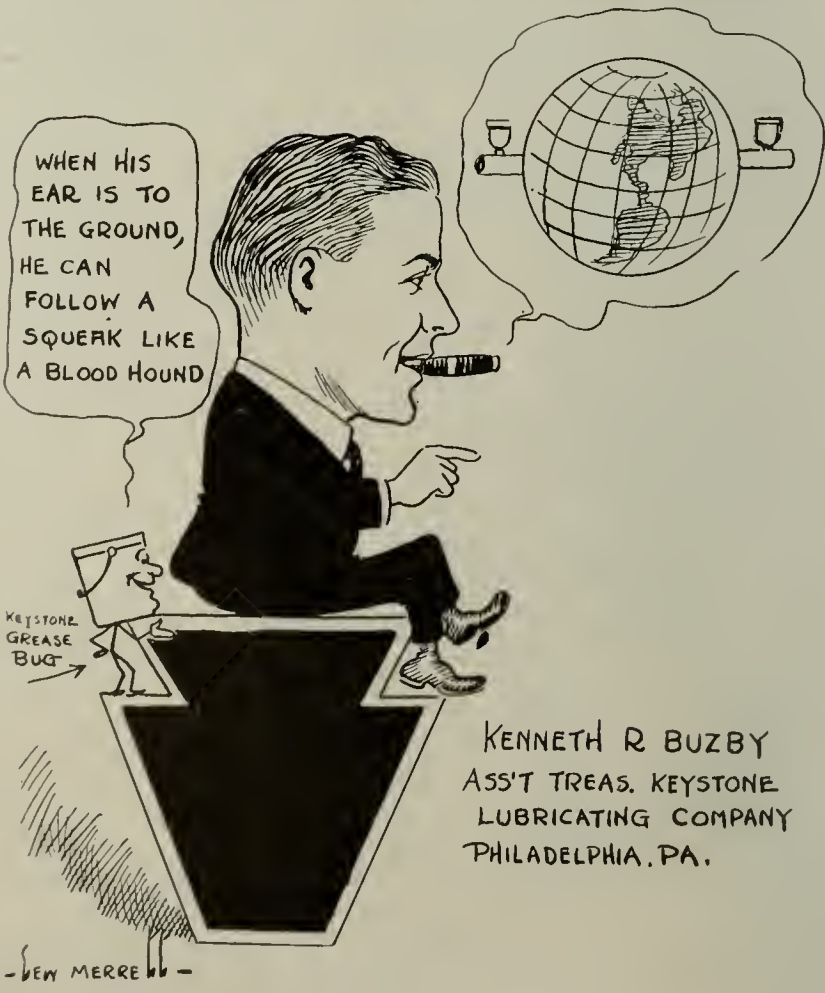
Resolved, That we favor and urge upon the national Congress:

First—That in any railroad legislation ample provision shall be made for such regulation of railroad rates as shall produce such rate of return upon capital invested in railroad securities as to make an investment in such securities sufficiently attractive to insure capital for railroad betterment and extension.

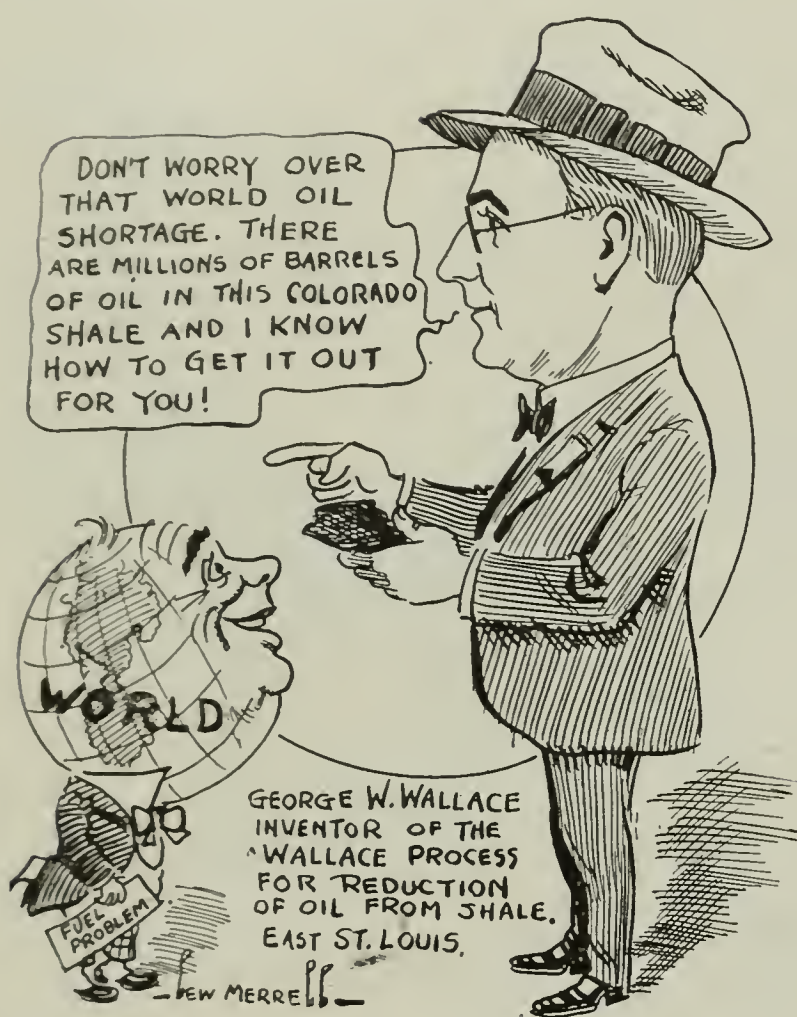
Second—That in any railway legislation provision be made to prevent strikes upon railroads, until the matters which may be the subject of controversy shall have been submitted to investigation and arbitration by some tribunal on which the public is represented.

No. 10
Alaskan Railroads

WHEREAS, The interior of Alaska is a vast storehouse of mineral wealth and agricultural







possibility requiring only systematic development to become an empire comparable to that produced by the development of the West since the Civil War; and

WHEREAS, Settlement naturally follows agricultural development and such development is only possible where there is a market for produce, and this entire district depends directly or indirectly for its present existence and future growth upon the development of its mining industry to furnish such a market and a foundation for future prosperity; and

WHEREAS, Under present conditions of inadequate transportation facilities and the practically prohibitive cost of power which have all but annihilated an industry that has produced \$85,000,000 in gold, which is only a fraction of the amount which may be recovered, the mining industry of interior Alaska is today facing the crisis of possible extinction; and

WHEREAS, The Congress of the United States, realizing the national opportunity inherent in the systematic development of this territory in which the nation still owns 98 per cent of the land, has already expended \$35,000,000 in the construction of a railroad from tidewater to the interior of Alaska to furnish transportation facilities, and has provided an additional \$17,000,000 to insure its completion at the earliest possible moment; and

WHEREAS, The construction of a power plant of sufficient capacity to supply adequate power for industrial and mining development at a reasonable price can only be accomplished by government effort but will quickly repay the investment with interest. Therefore, be it

Resolved, That this, the Twenty-second Annual Convention of the American Mining Congress does heartily indorse these acts of the Congress of the United States and the provision of funds to carry the railroad to completion, and urges upon Congress the continuance of a policy of systematic development of Alaska by construction of a power plant of sufficient capacity to provide reasonably cheap power for the mining industry of the interior, thus insuring the successful development of the mining industry, of agriculture, and of the settlement of the public lands on the "Last Frontier." And, be it further

Resolved, That copies of this resolution be transmitted to His Excellency The President of the United States, to the Honorable, the Secretary of the Interior, and to the Senate and House of Representatives through their respective presiding officers.

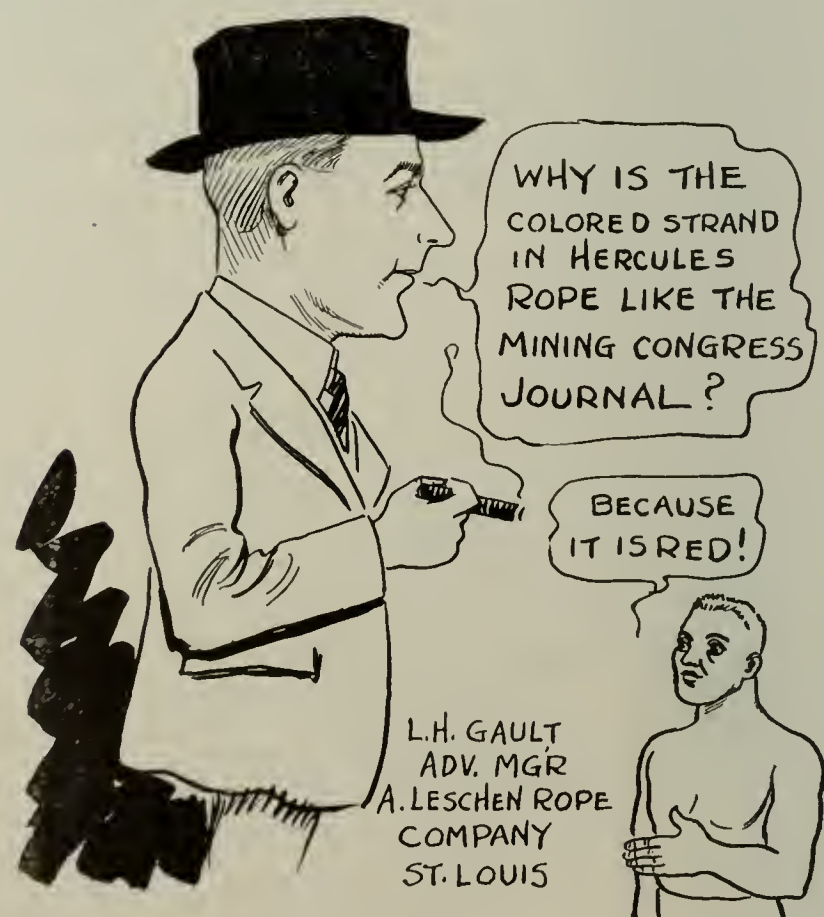
(Signed) JOHN A. DAVIS,
Fairbanks, Alaska.

No. 11

Bolshevism

WHEREAS, It is becoming increasingly apparent to all thinking men in the nation that one of the causes of the present industrial and social unrest is the deliberate attempt that is being made, by some men and women in all classes of social life, to spread the doctrines of Bolshevism and anarchy in this country, and

WHEREAS, The objects of Bolshevik propaganda are the overthrow of all institutions of government, law and order, the disruption of business and commerce and the initiation of a reign of anarchy and terror, and







WHEREAS, These attacks on our institutions, if allowed to persist, may lead to chaos, rapine, murder, and national disaster, and are fast becoming intolerable to all true American citizens, and

WHEREAS, The efforts of the government to combat these anarchistic influences have thus far been inadequate to stop the spread of this insidious propaganda, and

WHEREAS, One of the most effective means of combating this malignant national disease is through the education of the American people to the disastrous consequences that must follow unless it is checked. Therefore be it

Resolved: (1) That this the twenty-second annual convention of the American Mining Congress places itself on record as strongly opposed to anarchy, Bolshevism, I. W. W. ism, and all other doctrines subversive of law and order and the principles of right, justice, liberty, and the pursuit of happiness guaranteed by the Constitution of the United States.

(2) That this convention urges the properly constituted authorities to enforce to the ultimate limit all existing laws dealing with anarchy, sedition and treasonable utterances or acts.

(3) That such additional laws as may be necessary to insure the supremacy of law and order be immediately placed upon the statute books.

(4) That this convention urges the Congress of the United States to establish the means and provide the funds to combat all insidious anarchistic propaganda by the education and instruction of the people in the tenets of true Americanism, through the revival of the organization of four-minute speakers, who performed such loyal, patriotic and effective service against equally dangerous propaganda during the recent war, or by the creation of some new organization having similar patriotic aims and ideals.

(5) That a copy of these resolutions be transmitted to His Excellency, the President of the United States, and to the Senate and

House of Representatives through their respective presiding officers.
(Signed) EDWIN HIGGINS.

No. 12

Pctitioning Congress to Amend the Federal Aid Road Act

WHEREAS, The production of gold has decreased and is still decreasing to such an extent as to threaten all business based upon gold payment; and

WHEREAS, The decrease is partly traceable to the lack of incentive to discovery and proper development of new gold mines; and

WHEREAS, By far the greater proportion, estimated as high as 90 per cent of prospective gold producing territory of the United States, is situated upon, or within the boundaries of, the National Forest; and

WHEREAS, The act creating the National Forest reserved all mineral rights to the public, but made no provision for development; and

WHEREAS, The Forestry Department has shown no disposition to expedite development of the mineral resources of territory within the National Forest, and, in fact, to the contrary, has repeatedly hindered development by withholding appropriations manifestly intended by Congress for road construction, the benefits of which should be shared by the mining districts situated thereon, thereby creating a condition seriously detrimental to the development of new mines as wholly destructive of initiative and incentive to the prospector and operators. Now, therefore, be it

Resolved, That Congress is hereby respectfully requested to enact immediate remedial legislation along the lines of the suggested amendment to Section 8 of the Federal Aid Road Act, hereto attached and made part of this resolution, placing the duty of recommendations for expenditures of funds in road construction in such mining districts in the hands of the Secretary of the Interior; and it is further

Resolved, That the Secretary of the American Mining Congress is instructed to place copies of this resolution and attached draft of amendment in the hands of all members of Congress.

SECTION EIGHT OF THE FEDERAL AID ROAD ACT OF 1916 (Public Law No. 156, 64th Congress) H. R. 7617

SECTION 8. That there is hereby appropriated and made available until expended, out of any moneys in the National Treasury not otherwise appropriated, the sum of \$1,000,000 for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and each fiscal year thereafter,





up to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-six, in all \$10,000,000 to be available until expended under the supervision of the Secretary of Agriculture, upon request from the proper officers of the State, Territory, or County for the survey, construction and maintenance of roads and trails within or only partly within the national forests, when necessary for the use and development of resources upon which communities within and adjacent to the national are dependent; *Provided*, That the State, Territory, or County shall enter into a cooperative agreement with the Secretary of Agriculture, for the survey, construction, and maintenance of such roads or trails upon a basis equitable to both the State, Territory, or County and the United States: And provided also, That the aggregate expenditures in any State, Territory, or County shall not exceed 10 per centum of the value as determined by the Secretary of Agriculture, of the timber and of age resources which are or will be available for income upon the national forest lands within the respective county or counties wherein the roads or trails will be constructed; and the Secretary of Agriculture shall make annual report to Congress of the amounts expended hereunder.

That immediately upon the execution of any cooperative agreement hereunder the Secretary of Agriculture shall notify the Secretary of the Treasury of the amounts to be expended by the United States within or adjacent to any national forest thereunder, and beginning with the next fiscal year and each fiscal year thereafter the Secretary of the Treasury shall apply from any and all revenues from such forest 10 per centum thereof to reimburse the United States for expenditures made under such

agreement until the whole amount advanced under such agreement shall have been returned from the receipts from such national forest.

AN ACT TO AMEND SECTION EIGHT OF THE FEDERAL AID ROAD ACT OF 1916, PERTAINING TO CONSTRUCTION OF ROADS OR TRAILS WITHIN THE BOUNDARIES OF THE NATIONAL FOREST.

To provide that roads and trails shall be constructed within the National Forest for the use and development of mining districts in which the predominant mineral is gold.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That Section Eight of the Federal Aid Road Act of 1916, Public Law No. 156, 64th Congress be amended to read after the words, "receipts from such national forest," last words in last paragraph, as written in said Section Eight, as follows: That where a mining district or districts, in which the predominant mineral value is gold, is or are situated within the boundaries of the National Forest and are isolated from the National or State Highway systems to a degree rendering necessary the construction of roads or trails for their further development, the Secretary of Agriculture shall, independent of state or local cooperation, upon the recommendation of the Secretary of the Interior, that mineral discoveries of which gold predominates, have been made in such districts, and are of such magnitude as to warrant the construction of roads or trails for their further development, and that in his opinion said improvement would result in a material increase in the production of gold, proceed through the Bureau of Public Roads, or such other representative he may designate, to construct and maintain such roads or trails for the purposes herein stated, and shall assess the cost of construction and maintenance of said improvements proportionately to the mining district or districts benefited and the National Forest as the benefits derived from said improvements in just proportion to each, provided, however, that not more than 1 per centum of the gross annual output of gold from the mines in said district or districts, shall be assessed in any year, said sums to be paid into the National Treasury each year, beginning with the second year after the completion of said improvement, and the said amounts to be based upon the sworn statements of the mine operators or such districts and verified by the Director of the Bureau of Mines of the United States, until the full amount of the cost of such improvement is reimbursed to the National Government. Also after completion of said improvements the cost of their maintenance



shall be assessed in like proportion to the national forest, the agricultural, and the mineral lands, as each are proportionately benefited by the said improvement.

That for the purpose of carrying out the provisions of this amendment there is hereby appropriated out of any moneys in the National Treasury not otherwise appropriated the sum of \$20,000,000, to become available until expended immediately upon the passage and approval of this act.

No. 13

War Minerals

WHEREAS, The War Minerals Division was organized at a meeting called by The American Mining Congress at Washington, D. C., December 16, 1918, for the purpose of securing aid for war mineral claimants who, at the Government's request, lost money in efforts to produce war minerals for the use of the Government; and

WHEREAS, As a result of the efforts of such War Minerals Division, a bill (Public 220) was passed and approved March 2, 1919; and

WHEREAS, The interests of the producers of war minerals require that there shall be a continuous and permanent War Minerals Division of The American Mining Congress, to meet which requirements a chief of the War Minerals Division has been permanently employed. Therefore, be it

Resolved, That a War Minerals Committee be appointed by the board of directors of The American Mining Congress, to work in conjunction with the chief of the War Minerals Division of The American Mining Congress, for the purpose of carrying on the work of legislation, by petitioning the Congress of the United States to so amend the law approved March 2, 1919, as to afford relief to all such war minerals claimants. Be it further

Resolved, That we tender to the officers of the War Minerals Division of The American Mining Congress our hearty appreciation of the effective work done in carrying on the work which resulted in government recognition of the rights of war minerals producers, and pledge our support to the permanently organized War Minerals Division, in carrying on its future work.

No. 14

Industrial Relations

THE AMERICAN MINING CONGRESS,
St. Louis, Missouri.

GENTLEMEN:

Your committee on Industrial Relations begs to submit the following report, and move its approval and adoption by this convention.

Very truly yours,

E. P. MATHEWSON,

Chairman, New York.

HARRY L. DAY,

Idaho.

W. A. McCUTCHEON,

Pennsylvania.

ARTHUR THACHER,

Missouri.

GEORGE M. TAYLOR,

Colorado.

CHAS. W. POTTS,

Minnesota.

W. J. JENKINS,

Missouri.

Committee on Industrial Relations

We affirm that public welfare is paramount to the claims of any interest or class, and that no action detrimental to that welfare can be tolerated. That all relations between man and man, between employer and employe must be subjected to the acid test of right, and that no relation which does not recognize right can obtain the support of the public at large.

We deplore the differences arising between capital and labor, resulting in strikes, lockouts and curtailment of production, when an increased production is necessary to the welfare of this nation and the rehabilitation of the stricken nations of Europe.

We believe that, with as little delay as possible, plans should be formulated suggesting a common ground for such an understanding between capital and labor as will be most effective in the several industries and localities, and best designed to secure maximum production and efficiency.

We believe that fundamentally the interests of capital and labor are one and the same, and that no condition detrimental to either can exist without being detrimental to the other. We believe that every dispute can be settled by conference, if both parties undertake sincerely to be just and fair in their demands.

We believe that the present unrest in our industrial world is being fostered and encouraged by agitators who are antagonistic to the sound principles of our Government, and to true Americanism, and that the agitation is in furtherance of well-laid plans to warp the minds of our people and is calculated to incite and encourage class hatred even to the extent of revolution.

We have an abiding faith in the Amer-

ican people and in their fidelity to the American principles of liberty and justice, and we believe that they will ultimately choose the right path in this crisis, as they always have done on every great question of principle which they have been called upon to decide; but we believe that we all need to be shown the danger of listening to the radical and revolutionary theories which are now being so extensively promulgated.

We believe that all citizens, whether employers or the employed, stand equal before the law and before the bar of judgment of the people; that the freedom and liberty which is vouchsafed to all does not mean license and lawlessness; and that no action, individual or collective, can be condoned or allowed, which is against public welfare, or which strikes at the life and property of the people, or at any of the principles of our Constitution, which all true Americans hold dear.

We insist upon prompt, impartial and energetic enforcement of the laws of the United States, the several states, and municipalities, for the protection of life and property of our citizens, and the suppression of all license and lawlessness.

We believe in the right of labor to organize, but we insist that equal opportunity be given to every man, whether union or nonunion, to work under the same conditions, and under the full protection of our laws.

We believe that the strike does not result in the permanent advancement of the workers, nor the lockout in that of the employers, and that both are ruinous to the public welfare, and may, and often do, result in bringing hardships and misery to the public at large.

We believe that such legislation should be enacted which will eliminate both the strike and the lockout as means of settling industrial differences, until all the questions involved shall have been submitted to, investigated by, and reported upon by a public commission constituted for that purpose, the hearings of said commission to be public, and its proceedings and findings printed in the daily papers.

We call for the rigid enforcement of our present immigration laws, and the enactment of such further legislation as may be necessary to suppress undesirable immigration, shut out from our shores all those who are opposed to our American Constitution, and to make possible and mandatory the deportation of all undesirable aliens now resident here.

We also call for the rigid enforcement of all laws against the publication or circulation of seditious and inflammatory literature and propaganda, and ask for the enactment of new laws if those existing

are not strong enough to meet present necessity. Therefore, be it

Resolved, by The American Mining Congress, here in national convention assembled, that a permanent committee be forthwith appointed by its Board of Directors to make a thorough investigation of any and all plans which are now in operation in industrial plants throughout the country; to undertake the formulation of plans necessary to obtain the desired legislation; and to stimulate the thought of the public along these suggested lines—a full report to be submitted by the committee to the members of this Congress.

No. 15

Uniform Production of Coal

WHEREAS, A more uniform production of coal throughout the year would stabilize work at the mines and allay the dissatisfaction among workers due to irregular work and give a more economical production of coal through the better utilization of equipment and invested capital, and

WHEREAS, More uniform production would distribute the transportation of coal throughout the year, thus relieving the railroads during the fall and winter seasons, when agricultural products must be transported, and when the cost of transportation is most expensive; and

WHEREAS, It is only feasible for the ultimate consumer to store for future use coal produced in excess of current demands, and as the time for such storage of coal from April 1 to September 1 best meets the above conditions; and

WHEREAS, It is deemed advisable to stimulate the buying of coal during this period by lowering the price of coal; therefore, be it

Resolved, That this Congress favors the establishment of such differential in freight rates on coal during the period, April 1 to September 1, and such legislation as will permit coal operators to fix a definitely lower price for coal during such period, thus stimulating the early storage of coal and relieving the railroad congestion during the movement of crops.

No. 16

Coal on Indian Reservations

WHEREAS, Vast deposits of good coal are known to occur on Indian reservations in the United States, from which not a pound can be mined for sale to the public under our present laws, and

WHEREAS, The high price of coal in at least one state (Arizona) where such deposits occur has retarded the development of the natural resources, and has led to widespread use of fuel oil, which is admittedly a wasteful practice, and

WHEREAS, Laws already in force permit

the leasing of deposits of metallic minerals and of petroleum on Indian reservations, and this practice has operated to the advantage, rather than to the detriment of the Indians, be it

Resolved. That the American Mining Congress hereby petitions the Congress of the United States to enact such legislation as will permit the leasing and development of coal land on Indian reservations under such regulations promulgated by the Secretary of the Interior as will properly safeguard the interests of the Indians.

No. 17

Investigation of Copper Industry

WHEREAS, following the outbreak of the European War, in 1914, and the consequent interruption of export facilities, the production of copper in this country practically ceased and profits were eliminated, and,

WHEREAS, thereafter, production and prices increased until by the end of 1916 the high level of more than thirty cents per pound was reached, and,

WHEREAS, despite the high cost of production, copper producers then agreed to supply the Government's requirements at sixteen and two-thirds cents per pound, and, subsequently, at twenty-three and one-half and twenty-six cents per pound, these latter prices being fixed by the Government, and,

WHEREAS, with the signing of the Armistice, in November, 1918, complete stagnation developed in the copper market, and producers were left with an enormous stock of copper on hand, produced to meet the requirements of this Government and its Allies, and,

WHEREAS, the attitude of the copper producers throughout the war was one of unselfish and patriotic devotion to the best interests of the Government, for which they were repeatedly and highly commended, and,

WHEREAS, these copper producers, in a report by the Select Committee on Expenditures in the War Department, have been openly accused of double dealing and possible fraud, and,

WHEREAS, The American Mining Congress believes that a complete investigation will reveal the honesty of purpose of American copper producers, and demonstrate the injustice of such charges, now, therefore, be it

Resolved. That The American Mining Congress, in Twenty-Second Annual Convention assembled, at St. Louis, Missouri, November 17th to 21st, 1919, protests against the report casting opprobrium upon the copper producers of this country, during the war under the supervision and direction of the War Industries Board and other Government Agencies, and insists that further investigation be made, in justice to the copper producers.

(Sgd.) BULKELEY WELLS.

No. 18

Minerals Separation

WHEREAS, on November 12, 1918, the Federal Trade Commission commenced a proceeding against Minerals Separation, Ltd., its subsidiaries and its agents, charging them with stifling and suppressing competition, and monopolistic and oppressive practices, and violations of the Clayton Act and the Federal Trade Commission Act, in that their contracts and methods have tended (a) to prevent independent inventors and independent manufacturers from licensing and selling independent processes and independent apparatus, and (b) to prevent mine operators from using independent processes and independent apparatus, and (c) to require independent inventors and independent manufacturers to pay to Minerals Separation Ltd., its subsidiaries and its agents, exorbitant commissions as the condition of licensing and selling their own processes and apparatus, and (d) to discriminate unfairly, as between manufacturers and inventors similarly situated, in respect to the commissions thus exacted by Minerals Separation Ltd., its subsidiaries and agents, (e) to compel mine operators, metallurgists and engineers to surrender their own inventions to Minerals Separation Ltd., its subsidiaries and its agents, and (f) to prevent mine operators, metallurgists and engineers from publishing data regarding flotation, and (g) to compel mine operators, metallurgists and engineers to withhold information regarding flotation in event of litigation, and (h) to exact from mine operators an exorbitant royalty for the use of the processes of Minerals Separation Ltd., its subsidiaries and its agents, and (i) to exact from mine operators royalties upon the use of processes and apparatus in which Minerals Separation Ltd., its subsidiaries and its agents, have no rights whatsoever, and (j) to discriminate unfairly, as between mine operators similarly situated, in respect to the royalties thus exacted by Minerals Separation Ltd., its subsidiaries and its agents, and (k) to disparage, falsely and maliciously, independent processes and independent apparatus, independent inventors and independent manufacturers, and the users and patrons of such independent processes, independent apparatus, independent inventors and independent manufacturers, and (l) to claim, falsely and maliciously, exclusive rights in excess of those actually possessed by Minerals Separation Ltd., its subsidiaries and its agents, and (m) to threaten, with malice, patent infringement suits based upon claims of exclusive rights exceeding those actually possessed by Minerals Separation Ltd., its subsidiaries and its agents, and (n) to intimidate and coerce mine operators to refrain from using or patronizing independent processes, independent apparatus, independent inventors

and independent manufacturers by threatening to withhold from such mine operators licenses under Minerals Separation processes and apparatus, and (c) to coerce independent inventors and independent manufacturers, through the tactics above described, to enter into oppressive agreements with Mineral Separation Ltd., its subsidiaries and its agents; and

WHEREAS, The American Mining Congress has already filed with the Federal Trade Commission a brief upholding the Commission's jurisdiction in its proceeding against Minerals Separation Ltd., its subsidiaries and its agents, and the special counsel of The American Mining Congress, in his address before this convention, has made clear that the mining industry of the United States, now and for all future time, will be in bondage to Minerals Separation Ltd., its subsidiaries and its agents, unless the proceeding brought by the Federal Trade Commission is prosecuted to a successful conclusion; now therefore be it

Resolved, by The American Mining Congress, in convention assembled, with members and representatives present from every mining state in the Union that The American Mining Congress hereby endorses and commends the proceeding of the Federal Trade Commission against Minerals Separation Ltd., its subsidiaries and its agents, and endorses and approves the action of the officers and the special counsel of The American Mining Congress in supporting the commission's proceeding; and be it further

Resolved, That The American Mining Congress hereby pledges the assistance of its officers, its special counsel, its chapters and its members to assist the Federal Trade Commission in its proceedings to terminate the intolerable bondage which Minerals Separation Ltd., its subsidiaries and its agents, have now imposed, and hereafter in perpetuity threaten to impose, upon the mining industry of the United States.

(Signed) A. G. MACKENZIE

No. 19

War Minerals

WHEREAS, the dire need of the United States for the development of minerals essential in prosecution of war was made most evident during the World War, and

WHEREAS, under the stimulus of this great emergency, our resources in such minerals were shown to be sufficient; therefore be it

Resolved, That The American Mining Congress support legislation fostering the production of War Minerals, that the United States may be industrially independent both in times of peace and in times of war.

No. 20

War Minerals

WHEREAS, in section 5 of the Act of March 2, 1919, (Fortieth Statutes, page 1282), provision was made to repay producers of chrome, tungsten, manganese and pyrites net losses suffered by them in an effort to comply with the requests or demands of the governmental agencies mentioned therein to produce the said minerals required by the exigencies of the war and appropriating the sum of \$8,500,000 therefor; and

WHEREAS, under the construction now placed upon this law by the Attorney General, large numbers of War Minerals Relief claimants are not receiving the expected relief, therefore be it

Resolved, That The Mining Congress strongly urge and foster legislation through an amended act, which shall permit a wider administration of War Minerals Relief.

No. 21

Welfare

WHEREAS, The promotion of physical fitness is a matter of vital importance, increasing production and otherwise furthering the public welfare, therefore be it

Resolved, That The American Mining Congress urges upon all mining operators the adoption of effective measures to sustain the health and physical welfare of all men in the mining industry; and be it further

Resolved, That the authorities of the National Government and of the various states are hereby called upon to establish universally in the schools of the nation, practical measures for promoting the health and physical fitness of the rising generation.

No. 22

Industrial Relations

WHEREAS, the need for a speedy and satisfactory settlement of the problems now confronting employers of labor is apparent to the employers here present, and

WHEREAS, the changes in American industrial conditions during the past year have been so rapid that it has been quite impossible, up to the present hour, to reach a conclusion as to the value and permanency of any of the various systems of handling labor, and

WHEREAS, we agree that there must be reached, with as little delay as possible, a basis upon which capital and labor can proceed to the establishment of 100 per cent efficiency and production in the United States; and

WHEREAS, any program to be submitted to employers and employed must be so organized as to recognize in full the rights of both capital and labor to a full and fair return for either capital or labor invested, and

WHEREAS, any such program, if adopted,

must so far as is humanly possible, guarantee industrial peace, uninterrupted production and fair consideration of employer and employed, with full protection against unfair domination, either through force or otherwise; be it

Resolved, That The American Mining Congress, at its Twenty-Second Annual Convention hereby authorizes the Board of Directors to select a permanent committee on industrial relations, said committee to be composed of employers of labor, and which committee shall be authorized to make a thorough investigation of the various systems of industrial democracy, cooperative management, welfare, bonus systems, division of profits, and any and all plans which are now in operation, partially or in full, or which may be proposed by employers of labor, in groups or individually, to that committee; be it further

Resolved, That this industrial relations committee of The American Mining Congress shall be instructed to complete its preliminary field survey of the United States within three months from the date of the adoption of this resolution, and to at once, or as early as possible, correlate the information obtained into a report which shall contain the constructive conclusions of said committee, said report to be submitted to the members of The American Mining Congress for a referendum vote, said vote to be taken within a time limit to be fixed by the committee; and be it further

Resolved, That the Board of Directors of The American Mining Congress be hereby authorized to expend such sums as may be available from the general funds of this organization for the purpose of carrying on and completing this field survey and the publishing of the report as above authorized; and that the vote, when obtained, shall be submitted by the industrial relations committee to the Board of Directors, which shall then further instruct the industrial relations committee as to its activities.

(Signed) C. O. BARTLETT.

Report of the Resolutions Committee

To the President and Members of The American Mining Congress:

Your Resolutions Committee begs leave to report as follows:

Twenty-two resolutions were referred to your committee. Two of these resolutions were rejected. One was deemed to refer to subject-matter already covered in a previously considered resolution and was referred to the Board of Directors as a suggestion merely.

The balance are either recommended for adoption in original or substitute form or as amended by the committee.

Your committee suggests that in view of the immediate importance of the resolutions recommended for adoption, that those finally

adopted by this convention be printed in the next issue of THE MINING CONGRESS JOURNAL or, if such procedure be inexpedient, that the said resolutions be printed at once and sent to the members in advance of publication of the proceedings of this convention.

Respectfully submitted,

(Signed) GEORGE L. NYE, *Chairman*.

(Signed) JOHN A. DAVIS, *Sec'y*.

Votes of Thanks

WHEREAS, The success of the twenty-second annual convention of the American Mining Congress is largely due to the splendid provision made for the convenient transaction of the convention's business and to the generous hospitality of the people of the State of Missouri and the City of St. Louis, and

WHEREAS, This convention desires to make permanent record of its obligation to the convention city and state, and to all organizations and individuals that have contributed to make our visit agreeable and profitable therefore, be it

Resolved, by the twenty-second annual convention of The American Mining Congress, that the sincere thanks of the convention be extended to the people of the State of Missouri and of the city of St. Louis, Governor Frederick D. Gardner, Mayor Henry W. Kiel, The Advertising Club of St. Louis, The Associated Industries of Missouri, The Associated Retailers, The Junior Chamber of Commerce, The Kiwanis Club, The Optimists Club, The Press of St. Louis, The Rotary Club, The St. Louis Convention and Publicity Bureau, as represented in the membership of the St. Louis General Committee, the St. Louis Chamber of Commerce, The St. Louis Ladies Reception Committee; and be it further

Resolved, That this convention records its especial appreciation of the services performed by the various local committees in charge of the convention arrangements, noting with approval that these committees recognized the serious purposes of the convention by providing a full measure of hospitality and entertainment without unduly distracting the attention of the members and delegates from their important deliberations, and that the thanks of the convention be extended to all of the said committees and all the members thereof.

Resolved, by the twenty-second annual convention of the American Mining Congress, that the thanks of the convention be extended to the eminent speakers who have addressed it, to the officers of the convention and of its various sections, and to the able secretary of the Congress and the capable members of his staff, to whose unselfish, untiring and efficient efforts before and during the convention, is so largely due the success of the convention and the comfort and pleasure enjoyed by all who attended it.

Resolved, by the twenty-second annual convention of The American Mining Congress, that the thanks of the Convention be extended to the officers, directors and standing committees of the Congress, for their valuable services in the past year to the organization, the mining industry, and the national welfare.

Resolved, That we delegates of the twenty-second annual convention of The American Mining Congress, at St. Louis, Mo., Nov. 17-21, 1919, representing every phase of the mining and oil industries and embracing representatives from every mining state in the Union and the Territory of Alaska, tender to James F. Callbreath, secretary of the organization for fifteen years, their deep and sincere appreciation of the tireless energy and unbounded loyalty with which he has handled the onerous duties of his office.

By his initiative, diplomacy and foresight he has aided immeasurably in lessening the legislative burdens of the industry and has warded off oppression that might have resulted from ignorance of true conditions in high place.

While we also recognize, appreciate and commend the efficiency of his staff, we feel that Mr. Callbreath's long service of undivided loyalty and great accomplishment entitle him to special public expression of thanks from every man connected, directly or indirectly, with the mining industry of the United States.

The right of the individual to strike must not be confounded with the right of large numbers engaged in a vital industry to strike together. The right of the first is undisputed; the right of the last is qualified.

Whenever two or more persons organize and act to stop the production, or distribution, of necessities of life, thereby affecting public health, they are guilty of a wrong against the whole people and must be held to answer therefor.

The question as to a strike being justifiable or not, should be settled now so the public and strikers may clearly understand it.

The fifty days spent by the St. Louis committee in conjunction with the St. Louis office of The American Mining Congress was about the fastest completion of an exposition on record besides being hugely successful. The following manufacturers of machinery exhibited:

List of Exhibitors at Exposition of Mines and Mining, St. Louis, November 17-22, 1919

American Mine Door Co., Akron, Ohio.
H. R. Ameling Prospecting Co., St. Louis, Mo.

American Atmos Corporation, Pittsburgh, Pa.

American Blower Co., Detroit, Mich.

Atlas Car & Mfg. Co., Cleveland, Ohio.

American Coal Journal, New York.

Alexander Millburn Co., Baltimore, Md.

Atlas Powder Co., St. Louis.

American Cyanamid Co., New York, N. Y.

American Hard Rubber Co., New York, N. Y.

A. S. Aloe Co., St. Louis.

Ambrine Laboratories, New York.

American Pulverizer Co., St. Louis.

Broderick & Bascom Rope Co., St. Louis.

Baumes-McDevitt Machine Co., St. Louis.

Bucyrus Co., S. Milwaukee, Wis.

Bachelor & O'Connor Mfg. Co., Decatur, Ill.

Bussman Mfg. Co., St. Louis.

Crockwell Mine & Mill Supply Co., St. Louis.

Cleveland Breathing Machine Co., Cleveland, Ohio.

Cement Gun Co., Allentown, Pa.

Cincinnati Electric Tool Co., Cincinnati, Ohio.

Caldera Purga Co., Conway Bldg., Chicago.

Central Machine Works, St. Louis.

Car Dumper & Equipment Co., Chicago, Ill.

Canada Carbide Sales Co., McCormick Bldg., Chicago.

Coal Industry, Pittsburgh, Pa.

Crane Co., St. Louis.

Diamond Chain & Mfg. Co., Indianapolis, Ind.

Dinwiddie Steel & Mfg. Co., Fullerton Bldg., St. Louis.

Detroit Graphite Co., St. Louis.

Donk Bros. Coal Coke, St. Louis.

Electric Railway Equipment Co., St. Louis.

Egyptian Iron Works Co., Murphysboro, Ill.

Edison Storage Battery Co., St. Louis.

Engineering & Mining Journal, New York, N. Y.

Electric Service Supplies Co., Chicago.

Electric Storage Battery Co., Philadelphia.

Foamite Firefoam Co., New York.

Federal Sign Co., Chicago, Ill.

Goodman Mfg. Co., St. Louis.

Greather Fire Equipment Co., Dayton, Ohio.

Goodyear Tire & Rubber Co., St. Louis.

Gruendler Patent Crusher Co., St. Louis.

General Electric Co., St. Louis.

Henderson-Wells Welding & Cutting Co., St. Louis.

Hodges Stacey Machine Works, Cincinnati, Ohio.

Hyatt Roller Bearing Co., New York, N. Y.

Hardinge Conical Mill Co., New York, N. Y.

Hoyt Metal Co., St. Louis.

Hulsan Grate Co., Keokuk, Iowa.

Illinois Powder Co., St. Louis.

Industrial Trans. Mach. Co., St. Louis.

Ironton Engine Co., Ironton, Ohio.

Jeffrey Mfg. Co., St. Louis
 Jacoben & Schraeder Co., Chicago, Ill.
 Krehbiel Co., Chicago, Ill.
 Koppers Co., Pittsburgh, Pa.
 Keystone Consolidated Pub. Co., Chicago, Ill.
 Keystone Lubricating Co., St. Louis.
 Kaukauna Machine Works, Kaukauna, Wis.
 Littleford Bros., St. Louis.
 Link-Belt Co., St. Louis.
 Laclede-Christy Fire Clay Co., St. Louis.
 A. Leschen & Sons Rope Co., St. Louis.
 Lincoln Steel & Forge Co., St. Louis.
 Ludlow-Saylor Wire Co., St. Louis.
 Marion Steam Shovel Co., Marion, Ohio.
 Malcolmson Briquet Eng. Co., St. Louis.
 Multi Metal Co., New York, N. Y.
 Mine Safety Appliance Co., Pittsburgh, Pa.
 Monsanto Chemical Works, St. Louis.
 Myers-Whaley Co., Knoxville, Tenn.
 Morse Chain Co., Ithaca, N. Y.
 Mancha Storage Battery Loco Co., St. Louis.
 Missouri Mineral Exhibit.
 Medart Fred Mfg. Co., St. Louis.
 Morgan-Gardner Electric Co., Chicago.
 Monroe Calculating Machine Co., St. Louis.
 Mining Safety Device Co., Bowerston, Ohio.
 National Association for Protection of American Rights in Mexico, New York, N. Y.
 New Jersey Zinc Co., New York.
 Ohio Brass Co., Mansfield, Ohio.
 Overstrom Mfg. Co., San Francisco, Calif.
 Permutit Co., New York, N. Y.
 Parker-Russell Mining & Mfg. Co., St. Louis.
 H. H. Robertson Co., Pittsburgh, Pa.
 Roberts & Schaefer Co., Chicago, Ill.
 John A. Roebling's Son Co., St. Louis.
 Precision Instrument Co., Detroit, Mich.
 Philadelphia Storage Battery Co., St. Louis.
 Ridgeway Dynamo & Eng. Co., St. Louis.
 Shrouds-McCormick Co., Terre Haute, Ind.
 Walter Soderling, New York, N. Y.
 Standard Spiral Pipe Works, Chicago, Ill.
 Streeter-Amet Weighing & Recording Co., Chicago, Ill.
 Southern Wheel Co., St. Louis.
 Southern Coal, Coke & Mining Co., St. Louis.
 State of Colorado.
 Steel & Tube Co. of America, St. Louis.
 Tool Steel Gear & Pinion Co., Cincinnati, Ohio.
 United Iron Works, Kansas City, Mo.
 U. S. Electrical Tool Co., St. Louis, Mo.
 Western Electric Co., St. Louis.
 Williams Patent Crusher Co., St. Louis.
 C. A. Wood Preserver Co., St. Louis.
 Wyoming Shovel Works, Wyoming, Pa.
 Westinghouse Electric Co., St. Louis.
 W. A. Zelnicker Supply Co., St. Louis.

SIGNAL CORPS HAS NOTEWORTHY EXHIBIT AT A. M. C. CONVENTION

The Signal Corps exhibit at the American Mining Congress Convention was similar to those made at the electrical shows in Chicago, Ill., and Buffalo, N. Y. This exhibit was designed to show not only the principles of radio telegraphy and radio telephone, but was intended to give the general public an opportunity to see how the Signal Corps had overcome innumerable difficulties and had produced compact portable sets which would stand abuse and operate under unfavorable conditions.

The radio telephone sets shown were the SCR 67-A set and the SCR 68-A set. The former of these sets is a "ground set," that is, the set is used at the stations located on the ground, and is used both for transmitting and receiving telephone communications between the ground and airplanes. The SCR 68-A set is a set installed on airplanes for communicating in both directions with the SCR 67-A set located on the ground. The difference between these sets lies mainly in the source of power, and in the special transmitter and receiver used on the airplane.

The ground set derives its power from a dynamotor driven by two six-volt storage batteries, while the SCR 68-A set derives its power from a wind-driven generator, located in the landing gear of the airplane. The transmitter and receiver used on the airplane are of special design and were necessary in order to exclude the noise of the engine and the other interfering sounds caused by the passage of the airplane through the air. How successfully this was accomplished has been demonstrated to all who have witnessed the operation of these sets, as the faintest whisper can be received and all outside noises positively excluded.

These sets were located in diagonally opposite corners of the exhibition hall and messages sent back and forth between the sets, a considerable number of receivers of the conventional radio type being provided so that from six to ten persons could listen at one time. Naturally these booths were crowded to the limit during the entire exhibition. Also the radio emanations from these sets were picked up by amateurs and other stations on the outside, and all amateurs were advised of the wave length used so that they could listen in at any time they chose to do so.

Considerable interest was aroused due to the fact that in addition to sending spoken words an Aeolian Vocalion was secured through the local representative, and music and singing, both popular and classical, was transmitted just as effectively as spoken words. Considerable speculation was thus originated as to the commercial

possibilities of transmitting opera and orchestra music directly into homes of individuals.

The SCR 72 T. P. S. receiving set, or two-station amplifier, also created considerable interest, and many questions were asked concerning the method of receiving signals through the ground and the effects produced by amplification. It was quite amusing to those in charge of the demonstrations to see the effect produced upon those listening when the amplification was increased suddenly. The magnification of the faintest sounds to such volume as to render it unpleasant to keep receivers in close contact to one's ears naturally caused considerable comment.

Another feature of the exhibit which attracted considerable attention was the SCR 83 radio direction-finding set, or goniometer, which is used to locate the direction from which signals are received. It was explained how by the use of two of these sets and simple triangulation it was possible to locate with a high degree of accuracy the exact position of any station sending out a considerable number of messages and thus determine where the enemy's transmitting headquarters are located. This set operates on the loop principle, and a continual stream of questions was leveled at the heads of those in charge of the exhibit as to the principles underlying the operation of these sets.

Practically every amateur within reaching distance was in to inspect the exhibit, and those in charge of the exhibit devoted every facility at their power to explaining to the amateur operators what steps would be necessary for them to take in order to make their sets more efficient, and also suggested to them certain experiments which they might undertake in order to solve difficulties they were encountering.

In counter-distinction to the modern apparatus shown, there was exhibited an SCR 49 set, which is better known as the old cavalry radio pack set, carried on two mules. The power for this set is furnished by a hand-driven generator, which requires two men to operate it. Compared with this set the modern apparatus showed very conclusively the remarkable advances which have been accomplished in army methods of radio communication during the world war.

Gasoline Specifications

Gasoline specifications for the purchase of gasoline by government departments have recently been adopted by the Presidential Committee established during the war. These new specifications involve only minor changes, the end point being raised from 220 to 225 degrees Centigrade, and the 90 per cent point from 180 to 190 degrees Centigrade.

POMEROY NEW MEMBER WAR MINERALS RELIEF COMMISSION

Horace Pomerooy, of Palo Alto, Calif., has been selected to fill the vacancy on the War Minerals' Relief Commission. He takes the place occupied by the late Dr. M. D. Foster. Mr. Pomerooy is a mining engineer, most of whose work has been done in California, Arizona and New Mexico.

RELATION OF SILVER PRICE TO THE COINAGE

With the price of silver higher than it has been for some forty-five years, unusual interest arises regarding the position of that metal and its relationship in the present currency system. It is a well-known fact that a silver dollar does not contain the equivalent of a dollar's value in silver, and that the discounting value of the .371½ grams of pure silver contained in each piece causes that coin to vary in value. In 1915 its bullion value amounted to \$0.401, and with the present price of silver around \$1.23 the actual value of the silver dollar is \$0.95. Should the price of silver reach \$1.2929 per ounce the gold parity point will have been attained. An increase in silver value beyond that amount would give a purchasing power to the silver dollar greater than its face value. This might cause the stock of silver dollars to be melted into bullion and sold, but as relatively few silver dollars circulate little detriment to circulating currency would ensue.

The minor silver coins, such as dimes, quarters and half dollars contain a smaller proportion of silver than the silver dollar and until the price of silver attains a value of \$1.3823 per ounce (the gold parity point), no disturbance to that coinage is to be looked for.

The amount of silver in stock in the United States, June 30, 1919, amounted to \$532,214,590 against \$745,747,094 on June 30, 1918. The decrease is due to the melting of silver dollars under the Pittman act and the shipment of silver bullion from this country to Great Britain.—Bureau of Mines' report.

Uses of Magnesite

The principal uses for magnesite are in the form of refractory brick and dead-burned grains for lining open-hearth steel furnaces, crucibles and electric furnaces. It has also been used in the manufacture of sulphate of magnesium for use in making wood paper pulp; in the manufacture of carbon dioxide; in making fire-resisting paints, and as a preventive of boiler scale when sulphurous waters are used. Its different salts are also employed in certain medicinal and toilet preparations.—Bureau of Mines' report.

PERSONNEL OF NEW INDUSTRIAL CONFERENCE CALLED BY PRESIDENT

W. B. Wilson, Secretary of Labor.

Henry N. Robinson, Pasadena, Cal., attorney. Attended the Peace Conference at Paris as a member of the economic group of advisers to President Wilson, and also served there on the Supreme Economic Council and on the International Board. Later he became a member of the United States Shipping Board for a time.

Henry J. Waters, agricultural economist, editor of the weekly Kansas City "Star" and former president of the Kansas State College of Agriculture.

Thomas Watt Gregory, former Attorney General of the United States; skilled corporation lawyer, director Citizens' Bank and Trust Company, Austin, Texas; delegate National Conventions, 1904, 1912. Home, Austin, Texas.

George Woodward Wickersham, Attorney General of the United States, 1909-13; member law firm Cadwalder, Wickersham & Taft, of New York; counsel for many corporations; member many clubs and societies; trustee Carnegie Institute of Washington. Address, 40 Wall Street, New York.

Frank William Taussig, political economist; chairman United States Tariff Commission, 1917; fellow American Academy of Arts and Sciences; president, American Economists' Association, 1904-5; author number of books on economic questions, including "Wages and Capital"; editor "Quarterly Journal of Economics." Address, United States Tariff Commission, Washington, D. C.

Stanley King, former private secretary to Newton D. Baker, Secretary of War; conducted negotiations with labor organizations for War Department during war; shoe business at Boston. Address, Waltham, Mass.

Oscar Solomon Straus, former Ambassador to Turkey; lawyer and member pottery and glassware firm of L. Straus & Son, New York; member permanent arbitration court at The Hague, 1902; secretary, Department of Commerce and Labor under Roosevelt; former chairman, Public Service Commission, New York; former president, New York Board of Trade and Transportation, National Primary League, and vice-president, National Civic Federation and International Law Association. Address, 5 West Seventy-sixth Street, New York.

Richard Hooker, editor, Springfield "Republican"; member American Newspaper Publishers' Association; for number of years Washington correspondent. Address, Springfield, Mass.

Julius Rosenwald, merchant and philanthropist; long career in clothing business; extensive charities; member many civic, commercial and Jewish societies and trustee Rockefeller Foundation, University of Chicago and Tuskegee Institute; president since 1910 of

Scars-Roebeck & Co., mail order distributors; active in Council of National Defense during war. Address, 4901 Ellis Avenue, Chicago, Ill.

Owen D. Young, lawyer; member firm Tyler & Young, Boston; vice-president, General Electric Company, and member executive committee, Electric Bond and Share Company; lecturer, Law School, Boston University, 1897-'04; trustee, St. Lawrence U., Universalist; member Boston Bar Association. Address, 30 Church Street, New York.

Herbert Hoover, mining engineer; former Food Administrator.

Samuel W. McCall, former Governor of Massachusetts; lawyer; former editor Boston "Daily Advertiser"; delegate Republican National Conventions, 1888-'00-18; member many societies, clubs, etc. Address, Winchester, Mass.

Henry Carter Stuart, lawyer; Governor of Virginia, 1914-18; business connection, Stuart Land and Cattle Company, of Virginia; Buckhorn Iron and Improvement Company; First National Bank of Lebanon, Va.; delegate, Democratic National Convention, 1892; member, Meat Commission, United States Government, 1918. Elk Garden, Va.

Martin Glynn, lawyer; Governor of New York, 1913-14; editor, Albany "Times-Union"; member, Fifty-sixth Congress; Democrat. Address, Albany, N. Y.

Dr. W. O. Thompson, Columbus, Ohio; president of Ohio State University, has held that position for twenty years. During the war President Wilson appointed him a member of an agricultural commission to study agricultural conditions in Europe.

George T. Slade, well-known railroad man in the northwest. Resigned as vice-president of the Northern Pacific last year to become a colonel in charge of American army railroad operations behind the lines in France.

The Phelps Dodge Corporation, 99 John Street, New York, has issued the following order for change in the personnel of their company, to take effect at once:

Mr. P. G. Beckett is appointed general manager of Phelps Dodge Corporation, with headquarters at Douglas, Ariz.

Mr. A. T. Thomson, assistant to the president, will return to the New York office.

Mr. T. H. O'Brien is appointed manager, Industrial and Public Relations Department of Phelps Dodge Corporation, and consulting engineer, Stag Canon Branch, with headquarters at Douglas, Ariz.

Mr. W. D. Brennan, formerly general manager of the Union Pacific Coal Company, is appointed manager, Stag Canon branch, Dawson, N. Mex., vice Mr. T. H. O'Brien, resigned.

THE MINING CONGRESS JOURNAL

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DECEMBER, 1919

Abandon Fertilizer Control

The United States Department of Agriculture, through the Bureau of Soils has sent the following letter to all manufacturers of raw fertilizer materials:

On November 5, I addressed to you a letter in which it was stated, in substance, that any sale by you subsequent to that date of sulphate of ammonia, dried blood, tankage, fish scrap, cottonseed meal, rock phosphate or bulk acid phosphate in excess of their respective prevailing prices on October 7, 1919, would be considered by this department as *prima facie* evidence of profiteering. It develops that the trade has misconstrued the said letter and has given it an interpretation to the effect that the department in the said letter fixed maximum and minimum prices for such materials, was not the purpose of that letter to fix prices.

The department has no power to fix maximum or minimum prices of general application.

In order that this misconception may be entirely obliterated, the said letter of November 5, 1919, is withdrawn.

The object of the letter of November 5 was to impress upon the trade the provisions of the Control Law regarding profiteering and to indicate that manufacturers should use the prices prevailing on October 7, the date on which the conference was held in Washington, as a guide in determining whether they were exacting more than a fair profit in the sale of their products. In view of the national situation, the department is of the opinion that all manufacturers should use their best efforts to reduce the price of goods manufactured by them in order to cause a cessation of the pyramiding of costs and bring about a stabilized condition. In view of varying conditions in the different sections of the country, it is deemed advisable not to name October 7, or any other definite date, as a guide in the matter of profiteering, but the department wishes to impress upon the trade that it proposes to do all in its power to bring about normal conditions and to prevent profiteering. In this connection, your attention is especially directed to the provisions of the Control Law, approved August 10, 1917, as amended. Section 4 thereof makes it unlawful for any person "to make any unjust or unreasonable rate or charge in handling or dealing in or with" such commodities. It further provides that any person who violates the provision above mentioned shall upon conviction, be fined not exceeding \$5,000 or be imprisoned for not more than two years. The department will keep in close touch with the situation and promptly report to the Department of Justice for prosecution any violations of this law.

DRIVE CUTS RAILROAD

ACCIDENTS 33 PER CENT

Complete statistics as compiled by the Safety Section of the United States Railroad Administration, covering the period of the National Railroad Accident Preventive Drive, from October 18 to 31, show a decrease of 42, or 33 1/3 per cent, in the number of employees killed, compared with the same period of 1918.

During the period of this intensified drive for the reduction of accidents, 2731 fewer employees were injured than in the corresponding period of 1918, or 53.2 per cent.

Important in Construction

The production of magnesite was one of the most important of our war mineral developments, not only as regards production of steel, but also in the building trades and operations of the country.—Bureau of Mines' report.

DOCUMENTS OF RECORD VALUE EXCHANGED DURING COAL STRIKE

As this issue goes to press, apparently the coal strike is about to end with the acceptance of the President's proposal. Since the strike has been of such intimate importance to the public, the daily newspapers have carried very detailed accounts of its progress from day to day. For that reason, we are including in the Mining Congress Journal only some of the more important documents which have value as a record. They follow:

OPERATORS' STATEMENT

The coal operators of the Central Competitive Field gave out the following statement on November 25:

"The coal operators of the Central Competitive Field announce that they are in complete accord with the principles stated by Mr. Garfield last night as a fair and sound basis for a settlement of the present wage controversy in the bituminous coal-mining industry. In order that the public may understand the precise bearing of these principles upon the various proposals of wage increases which have been made, the following analysis has been prepared:

"The miners and the Secretary of Labor have deliberately attempted to convey the impression that the total of the increases granted the miners from 1913 to 1917 is very small and far below the increase in the cost of living during the same time. The comparative figures which they have used for this purpose have been misrepresentative and misleading. To determine the real merit of the miners' contention that they are entitled to higher wages, Dr. Garfield yesterday announced the principle that:

"The arrangement entered into between the operators, the mine-workers and the Fuel Administrator, with the sanction of the President of the United States in October, 1917, was intended to equalize the wages of all classes of mine-workers and to be sufficient to cover the period of the war, but not beyond March 31, 1920; hence the only increase in cost of living which can now be considered is the increase above that provided for by the average increase in 1917; that is to say, the average total increase in pay over the 1913 base, which was the base considered in 1917, should not exceed the present average increase in the cost of living over the same base. It is also to be considered that the cost of living will fall rather than rise during the next few years.'

"Secretary of Labor Wilson, in presenting his figures, left out of consideration altogether all machine miners and all the

day laborers. These men which he eliminated comprise over 80 per cent of the total number of miners employed in the Central Competitive Field. The pick miners, on whose scale he based his calculations, represent less than 20 per cent. And in passing we wish to advise Secretary of Labor Wilson and the public as well that there are no longer any pick miners—they have transformed themselves into powder miners. The pick scale originally was based on an agreement that men receiving the pick-scale wage would undercut the coal by hand with a pick. This was somewhat arduous labor, and they were entitled to a higher scale for this character of work. The so-called pick miners long ago refused to continue their pick work and for the past several years have blasted off the solid, letting the powder do the work that they were supposed to do with a pick. They are, accordingly, no longer entitled to the higher scale which is allowed for hand-pick work.

"The increase in the present scale for machine miners in Illinois is a 45 per cent increase over 1913, in Indiana a 47 per cent increase, in Ohio a 50 per cent increase, and in western Pennsylvania a 57 per cent increase. The average increase for all the field was approximately 49 per cent. Men who were paid not on a tonnage basis, but by the day, comprise approximately 40 per cent of the total employees in the Central Field. These men have had their wage scale advanced between 1913 and 1919 by 76 per cent. When due weight is given the number of men in the various occupations the present wage scale represents an average advance of 58 per cent over the scale in effect in 1913.

"The increase in the actual earnings of the men under this scale is of even greater interest than the increase in the wage scale. According to Percy Tetlow, statistician of the United Mine Workers, the average earnings of the men in Illinois between 1913 and 1918 increased 97.4 per cent, in Ohio, 78 per cent; in Indiana, 114 per cent; in western Pennsylvania, 82.7 per cent, and in the entire Central Field an average of 90 per cent. This does not indicate any deficit in increases granted the miners when it is remembered that up to October, 1919, the cost of living had advanced only 77 per cent above the 1913 basis over the country as a whole, while in the mining fields the increase has been substantially less.

"In connection with the earnings of the men under the present scale, it should be

quite clearly understood that only about 20 or 25 per cent of the men work steadily. A recent report of the United States Bureau of Labor statistics shows that pick miners in 1919 were earning only 84.5 per cent of the amount they could have earned if they had worked steadily during the days the mines were offering them work. It shows further that the loaders after the machines, who comprise the most numerous class of employes, earned only 80.4 per cent of what they could have earned had they worked steadily on the days when the mines were offering them work. The pay rolls of the mines disclose the fact that the employes who work steadily in any mine are regularly earning from \$175 to \$250 per month, while in many cases individual employes are earning from \$300 to \$400 per month.

"The official figures of the Department of Labor show that the men can increase their earnings from 15 to 25 per cent merely by working steadily on the days when the mines are running. Plenty of leisure time is afforded the employes on the days when the mines are not able to run because of lack of cars, mechanical breakdowns or other reasons. The producers feel that the wage scale should be fixed with reference to the earning power and opportunity of men who are willing to work steadily and not with reference to the earnings of men who voluntarily absent themselves from work one day out of every four or five when work is offered. In our opinion the short road to lower cost of living in the United States is less idleness and greater production per man.

"The offer of 15 cents per ton and 20 per cent increase in day work, which the operators made in order to settle this controversy, represented an increase over the 1913 scale of 74.5 per cent in the mining machine scale and 111.3 per cent in the day wage scale in Illinois, an increase of 77.5 per cent in the machine mining scale and 111.3 per cent in the day wage scale in Indiana, an increase of 80 per cent in the machine mining scale and 111.3 per cent in the day wage scale in Ohio, an increase of 90.5 per cent in the machine mining scale and 111.3 per cent in the day wage scale in western Pennsylvania, making an average increase in wages for all classes of miners over the entire field of 89.1 per cent. Secretary Wilson's proposal means an increase in machine mining rates varying from 98.2 per cent to 117.7 per cent over the 1913 basis, with an average of 105.5 per cent for the entire field. His proposed day wage scale advance amounts to an increase of 131.7 per cent for the entire field. The increase in the cost of living to date, as before stated, is 77 per cent or less for the miners, and Dr. Garfield points out the fact that it may be expected to decline. Plainly,

therefore, the operators, in order to settle this controversy, have already offered the miners much more than they are entitled to.

"On the same basis, Secretary Wilson's proposal means an average increase of 111.3 per cent, compared with an increase in the cost of living of only 77 per cent. The mere statement of these figures shows the unjustifiable character of the Secretary's proposal.

"Every mine wage increase granted since 1916 has resulted in decreased efficiency of the miners and increased voluntary idleness on their part. The production per day per man has steadily declined with the advancing wages, and this in spite of the fact that the mechanical facilities for increasing output per man have been steadily improved.

"Does the public want to encourage the continuation of this deplorable practice of shirking? We have thought not, and accordingly have stood against further mine wage increase. We made our offer of a 20 per cent advance as a matter of public expediency and against our better judgment. We regret now that it was made. If the miners are entitled to any advance at the present time, it is in an amount much smaller than the 20 per cent we offered."

EXECUTIVE COMMITTEE STATEMENT

The Executive Committee of the Bituminous Coal Operators of the Central Competitive Field issued the following statement on November 26:

"The storm center of the mine-wage controversy to date has raged about the question of percentage of wage advance since 1913 as compared with percentage of increased cost of living since the same date. We can prove, and, as a matter of fact, have proved, by figures submitted yesterday to the public, that on the percentage basis of figuring miners have already been offered by the operators far more than they are entitled to. But even more significant than these percentage statements are the figures of actual earnings in dollars and cents.

"The following is a list of miners from different parts of the Central Competitive Field showing average daily earnings taken direct from pay rolls:

"William Dewarr, \$6.10; Alvin Anderson, \$8.30; Paul Cases, \$9.44; Egnot Sessions, \$7.70; Bruno Eckovich, \$8.42; John Martin, \$8.23; Andrew Bagon, \$8.26; Edwin Brawley, \$8.11; Jacob Gullick, \$9.37; Charles Wise, \$13.05; Charles Krug, \$12.10; J. W. Sims, \$13.03; James Eccleston, \$12.10; Pearl Patton, \$9.64; Dave Nichols, \$9.70.

"Thousands of others showing similar earnings could be added to this list, and we contend that the figures do not indicate an insufficient wage.

"The miners allege that they do not have an opportunity to work a sufficient number of days at wages indicated above in order to secure a proper annual wage. To indicate how much cause the miners have to complain in this matter we have selected a mine pay roll which is typical of all others. This pay roll covers a period of one month during which the mine worked twenty-two days, and accordingly offered every miner on the pay roll an opportunity to work the full twenty-two days. There were 175 men employed at this mine that were on the pay roll during the entire month. Out of this number 46 only presented themselves for work on each of the 22 days; 33 were present at the mine of 21 days; 31 for 20 days; 19 for 19 days; 8 for 18 days; 12 for 17 days; 7 for 16 days; 1 for 15 days; 1 for 14 days; 4 for 13 days; 2 for 12 days; 3 for 11 days; 1 for 10 days; 1 for 7 days; 2 for 6 days; 4 for 4 days; 1 for 3 days.

"Are those men who refuse to take full advantage of their opportunities to work, and who prefer to loaf rather than to produce coal, entitled to any consideration at the hands of the public? It is for these men who, through their refusal to work, have brought down the average of the miners' earnings, that the mine-workers' organization is demanding an increased wage. We say most emphatically they are not entitled to it. If they will work they will earn; if they will not work it is not up to the mine-owners or the public to support them in idleness. On every occasion that the mine wage scale has been advanced during the last few years the number of these idlers has increased, because they were able to earn all they required in a fewer number of days. It is time to call a halt."

HINES' STATEMENT

Walker D. Hines, Director General of Railroads, on November 25 authorized the following:

"The railroads had in their possession on November 1, when Fuel Administrator Garfield turned over the distribution of coal to the railroads, about 22,000,000 tons of soft coal, either in railroad storage or in cars. From this supply and the current production that has been increasing steadily since the strike began, the railroads have been kept in operation, all American flag ships and a limited number of foreign ships have been bunkered, public utilities and absolutely essential industrial plants and institutions of various kinds, such as hospitals, have been kept supplied, and the householder has been kept warm. These uses have prior claim to coal, and until coal is again produced in sufficient quantity more than to meet these needs, and unless there are unusual conditions, no supplies will be released to other users.

"In the first week of the strike the average number of cars of bituminous coal loaded daily was 9,305, or 26 per cent of the pre-strike average; in the second week loading was at the rate of 10,608 cars, or 30 per cent of the normal rate, a gain over the first week of 14 per cent. Last week, the third of the strike, production steadily increased and reached nearly 40 per cent of normal. The present week promises so far a still better showing.

"Production now is mainly in the east, in the south, and in the Rocky Mountain region. In the central states, where bituminous coal is so largely used, there is little or no present output. The railroads have the difficult and unusual task of moving west a large part of the production of such fields as the Pocahontas and Pennsylvania fields that normally moves east. The 22,000,000 tons the railroads had on November 1 was as evenly divided as possible over the country, but in the sections where there had been no production, supplies have become depleted and coal from the eastern producing fields has been and is being sent west to fill these needs.

"At the eastern tidewater ports there were, on November 1, many thousands of cars of coal assembled for export to foreign countries. These cars were held, when the strike was first begun, as reserve supplies for the railroads, essential industries and limited bunkering of ships. The accumulation of cars of coal at these ports is nothing abnormal, is not interfering with operation, and has not been allowed to increase. It is being held for the protection of essential consumers on the Atlantic seaboard. The export business in coal was in full swing when the strike began, but obviously so long as the coal in cars and the current production are no more than what is needed for the protection of this country export of coal should not be and will not be allowed. The situation is well in hand, and there is and will be no lack of empty cars for the coal mines that are working. The cars of coal held under load at various points for emergency use are not interfering with regular transportation."

GLASS' STATEMENT

The Secretary of the Treasury on November 27 issued the following statement:

"Coal operators generally in the United States in the years 1914 and 1915 lost money when normal depletion and depreciation are taken into consideration. What is meant by this is that proper item in fixing costs, is depreciation of plant and depletion of the cost or value of the coal in the ground.

"In the latter part of 1916 all coal companies in the United States, save those in the extreme west, began making money with the result that the operations for the year

1916 generally show a profit of from 10 to 35 per cent on capital invested.

"In 1917 all bituminous coal mines east of the Mississippi River made what might be termed fabulous profits, the general average being from 100 to 150 per cent on invested capital, the range being from 15 to 800 per cent.

"In 1918 conditions were not so good in the Appalachian and central competitive districts, profits generally being reduced 25 to 30 per cent less than for the preceding year, the range being from 15 to 300 per cent on invested capital. In the west conditions in 1918 were better than in 1917, the profits in the Rocky Mountain districts ranging as high as 400 per cent on invested capital.

"Unofficial figures for 1919, incomplete of course, indicate that profits of the operators are less than for 1918, some of the operators claiming to have actually lost money."

MORROW'S LETTER

J. D. A. Morrow, vice-president of the National Coal Association, made public, on November 30, the following open letter to Carter Glass, Secretary of the Treasury:

"Reluctantly I find myself obliged to take issue with an informal statement furnished you by some of your experts and published November 27 regarding the profits of bituminous coal mine operators. That statement has given the public an impression so incorrect and misleading that I must call your attention to its obvious inconsistencies.

"I feel sure that you did not personally weigh and test the statements contained therein, for I am confident that you wish to be fair and impartial, and a moment's consideration must have revealed to you the obviously erroneous impression certain to be created by the publication of the memorandum.

"The memorandum is apparently based on a casual inspection of the returns of certain individual coal companies. From these individual instances the impression is clearly given that the industry in 1917 made 'fabulous profits,' with average returns on invested capital of 'from 100 to 150 per cent.' It is true that the foregoing statement refers only to the operators east of the Mississippi, but they produce nearly 90 per cent of the total bituminous output.

"Certain individual concerns may have made such profits, but not the industry as a whole, and, as the Fuel Administration has pointed out, fairness demands consideration of the industry as a whole.

"For the entire bituminous industry in 1917 to make profits of 'from 100 to 150 per cent' on invested capital would require a total profit of upwards of \$1,500,000,000. According to the United States Geological Survey Report, entitled 'Coal in 1917,' page 923, the total gross receipts of the opera-

tors for all the bituminous coal produced in 1917 was only \$1,249,272,837. Hence the total gross receipts, before deducting operating expenses, were less than the total profits which would have to be made out of those receipts to justify the statement of your experts. This indicates the ridiculous nature of their casual generalizations.

"The statement respecting the profits in 1918 is even worse. The memorandum says that in 1918 profits were generally 'reduced 25 to 30 per cent less than for the preceding year.' In other words, they must have averaged from 75 to 120 per cent. This would mean total profits for the industry in the neighborhood of \$750,000,000 to \$1,200,000,000. Fortunately on November 19 the Fuel Administration issued exact information on this subject. It stated that for the year 1918 the average gross margin realized by the bituminous producers was 40 cents per ton, out of which 'interest charges, selling expense, federal taxes, both normal and excess profit, as well as certain other items not allowed in computing costs, were paid' before any profit remained. According to the United States Geological Survey the total production of bituminous coal in 1918 was just under 580,000,000 tons. A gross margin of 40 cents on this tonnage amounts to \$236,800,000, most of which was not profit. This statement of the Fuel Administration was given to the newspapers, had been made public and attracted wide notice more than a week before your experts handed you their memorandum indicating that the profits in 1918 were from three to five times the total gross margin actually realized by the operators during the time that the United States Fuel Administration was exercising a careful and exact control of prices.

"The Fuel Administration has emphasized the fact that general conclusions affecting bituminous coal selling prices can safely be drawn only from averages covering the entire industry. I know that you wish to be fair to this industry, as well as to all others. Therefore, as a correction to the memorandum of the 27th I respectfully request that you publish the average per cent of profit on capital invested, both before and after paying federal taxes, for the bituminous industry as a whole.

"The Fuel Administration has also pointed out that a comparison of earnings of employees in this industry with earnings of workers in other industries is necessary to a fair consideration of wage problems. Likewise a comparison of profits in this industry with those in all other industries is necessary if you mean to set forth fairly the aspect of the bituminous coal mining industry. I must therefore further respectfully request that at the same time you also publish for the other industries their

average percentage of profits both before and after federal taxes have been paid.

"In conclusion let me add that this is asked not because it has any direct bearing upon the present wage controversy, for whether the coal producers can now absorb out of their profits large wage increases is to be determined, not with regard to conditions of two or three years ago, but with reference to present conditions. It is well known that in 1919 prices have been lower, costs higher and margins much smaller than in 1918, in many cases profits having entirely disappeared. Therefore, in asking for the publication of the averages suggested, this industry is asking merely for a simple act of justice to correct finally and effectively the erroneous public impression created by ill-considered statements from those whose word carries the weight of authority.

"Since I feel that this entire discussion should be open to the public, I am taking the liberty of handing this letter to the press."

REPLY TO M'ADOO

The bituminous coal operators on November 25 sent the following reply to William G. McAdoo's statement regarding their profits:

"Inasmuch as your message of November 24 was released for publication and thus becomes a message to the public, we take the liberty of answering it in the same manner. The mine-owners are opposing a wage increase at this time for the reason that they believe no increase in wage rates is necessary to permit any industrious man who wants to work to earn sufficient money to maintain a decent American standard of living. This point, together with all others, they have offered to submit to arbitration or investigation.

"Upon what current facts and figures are you convinced that the increased rates of wages proposed for the mine-workers are just and reasonable? Upon what current facts and figures are your grave doubts based as to whether the mine-owners are entitled to increase the price of coal to the consumers? If you have current facts and figures to substantiate your conviction and doubts, you will make a good witness for the miners before a board of arbitration or tribunal of investigation which thus far they have firmly declined to agree to. If you have not these current facts and figures your mere personal opinion has no weight.

"Your admission that conditions in 1917 were abnormal is agreed to. When the world goes to war, conditions are certainly abnormal. So far as the mine-workers were concerned, this abnormal condition was recognized by two abnormal increases in wages during the year 1917, and the United

States Government promptly put an end to abnormal coal prices. It would be interesting to have your recollections regarding the tax reports made by other industries which are not so restrained. As you proceed to admit your ignorance of conditions in 1918 and 1919, that portion of your message carries no weight and requires no answer.

"You suggest a careful examination of income tax returns before an additional price for coal is allowed. This would be included in the investigation which the mine-owners agreed to more than a month ago and have been urging ever since, but thus far the mine-workers have been unwilling to agree either to arbitration or investigation. Either procedure will disclose not only the current tax returns of the mine-owners but of the miners as well. The figures are here in Washington and can be readily produced if you can get the mine-workers to agree. The bituminous coal operators will welcome the publication of just as full current tax returns for the bituminous coal industry as are published for any other industry.

"In the last two paragraphs of your message you again suggest investigation and also that the mines resume operation. Either your newspapers are not reaching you, you are not reading them, or you have deliberately ignored the published facts. Upon October 24, in Washington, the mine-owners, promptly and without reservation, agreed to the proposition made by President Wilson that the mines be continued at work and the entire matter be submitted to a board of arbitration. Upon October 31, in Cleveland, the mine-owners agreed to President Wilson's later suggestion that the whole matter be left to a tribunal to be appointed by him to investigate the facts. Upon Thursday, November 20, in Washington, the operators offered three resolutions to the sub-scale committee of miners and operators, each referring the entire matter to arbitration, and they were all voted down by the miners.

"Upon November 19, in Washington, Federal Fuel Administrator Garfield, based upon the statistics collected by his officials, stated 'That the average realization upon 579,385.820 tons of bituminous coal mined in 1918 was \$2.61 per ton, that the average cost of production during the same period was \$2.15 per ton,' leaving an average margin of 46 cents per ton to the operators. Mr. Garfield was then careful to state that 'This margin of 46 cents per ton includes profit but does not represent profit only, inasmuch as interest charges, selling expense, federal taxes, both normal and excess profit, as well as certain other items not allowed in computing costs of production, were paid out of it.' The average income and excess profits taxes paid 'were

upwards of 30 cents per ton in 1918.' From the remaining 16 cents per ton, after deducting interest charges, selling expense, as well as certain other items not allowed in computing costs of production, come the net profits to the operator which are so shocking and indefensible to you.

"If this message had not come from a former prominent official, supposedly accurately informed, it would not deserve the notice of a reply, but its misleading statements and insinuations are the kind of stuff which Bolshevism breeds upon. Whatever your purpose, it is in exceedingly bad taste for you, a former member of the Cabinet of the present Administration, to inject yourself into the present tense situation in a manner which can only embarrass and handicap those officers of the Government who are now bending every effort to work out a solution of the mine-wage controversy in a manner which will do justice to all parties concerned."

E. P. Mathewson

Born, Montreal, Canada, October 16, 1864. Graduated from McGill University,



E. P. MATHEWSON

Montreal, in Mining and Metallurgy, Bachelor of Applied Science in 1885. The following year went to Pueblo, Colo., where he started as assayer and was for

many years superintendent and metallurgist. In 1897 he became associated with the firm of M. Guggenheim's Sons, and for them held various positions, generally as manager or metallurgist at their Philadelphia plant in Pueblo, Colo., the refinery at Perth Amboy, N. J., the smelting plant at Monterey, Mexico, and for two years in charge as general manager of the smelting plant at Antofagasta, Chile.

His next position was with the Anaconda Copper Mining Co. Starting in as superintendent of the blast furnaces in 1902, he was soon placed in charge of the entire plant, and there developed the large blast furnace bearing his name, and with the assistance of the local staff made many improvements in reverberatory smelting. Leaving the Anaconda Company in 1916, receiving a wonderful send-off, he next took charge as manager of the construction of the plant for the British America Nickel Corporation, at Nickelton, Ontario, near Sudbury and Deschenes, Quebec, until 1918, when he became a director and consulting metallurgist of the American Smelting and Refining Company, with headquarters at New York City. He resigned this position on November 1, 1919, to open offices as consulting metallurgist at 42 Broadway, New York.

Occurrence of Platinum

The mother rocks of platinum are basic igneous rocks, peridotite, pyroxenite, and dunite. The peridotites and pyroxenites are dark-gray to black heavy rocks composed principally of black or dark-green iron magnesium silicates, pyroxene, augite and hornblende, olivine, plagioclase feldspar, chromite, ilmenite, and magnetite. Dunites are composed principally of olivine with some chromite. There is every gradation between these types of rocks and the less basic rocks. A characteristic of the basic rocks is their tendency to alter to serpentine, a soft, greasy fibrous mineral of olive-green to black color that once seen is readily remembered. Attempts to trace platinum to its source have proved unsuccessful in Russia, Spain, and Canada, but no deposit of platinum in the mother rock has been found of commercial grade under normal conditions. It is possible, but does not seem probable, that bodies of platinumiferous rock may be found in the United States rich enough in platinum to be worked under present conditions. It should be recalled, however, by all persons searching for platinum ores that the assay for platinum is difficult and apparently cannot be successfully made by all commercial assayers. It is therefore strongly recommended that samples of supposed platinumiferous ores be sent only to most reliable analysts.—Bureau of Mines Report.

HINES NAMES REGIONAL COMMITTEES TO HANDLE COAL

Walker D. Hines, Director General of Railroads, on November 6 authorized the following information, to save loss of time and otherwise facilitate the handling of applications from consumers who require coal, it could be noted that the arrangements for handling provide that applicants for coal make their requests through the local authorities of the railroad from which they usually received their supply, or preferably the federal manager of that road. The list of regional and district coal committees established is given herewith:

LIST OF REGIONAL COAL COMMITTEES

Southwest Region: St. Louis, Mo., Railway Exchange—P. H. Greenlaw, chairman; C. A. W. Z. W. Brice, J. G. Livengood
Southern Region: Atlanta, Ga., Healey, J. D. King—A. M. Smith, chairman; J. J. King, J. H. Epes, F. H. Fechtig, S. L. Yerkes, G. W. Lamb.
Northwest Region: Chicago, Ill., 226 West Jackson Boulevard—T. W. Proctor, chairman; George W. Reed.
Central-Western Region: Chicago, Ill., 547 West Jackson Boulevard—B. J. Rowe, chairman; P. Hunter, F. C. Honnold.
Eastern Region: New York City, Grand Central Station—G. N. Snider, chairman; A. Morris, R. D. Starbuck, A. E. Russell, E. Wight, H. L. Ingersoll, J. W. Searles.
Allegheny Region: Philadelphia, Pa., Broad Street Station—J. B. Fisher, chairman; E. H. Starkard, W. S. Yeatts, J. W. Laurel, C. C. Redisch.
Pocahontas Region: Roanoke, Va.—D. E. Angler, chairman; E. J. Howe, fuel; F. L. Dexter, E. T. Burnett, J. W. Coxe, T. D. Hart.

LIST OF DISTRICT COAL COMMITTEES

New York. Grand Central—G. N. Snider, chairman, coal traffic manager N. Y. C.
New England, Boston—P. R. Todd, chairman, president, B. & A. R. R.
Cincinnati—H. A. Worcester, chairman, district director.
Detroit—P. G. Findlay, G.F.A., M.C.
Lake-Cleveland—H. M. Griggs, manager of Coal Exchange.
Kansas City—W. M. Corbett, chairman, general manager Kansas City Terminal Railroad.
Omaha, Council Bluffs—William Jeffees, chairman, general manager, U. P. R. R.
Des Moines—C. W. Jones, chairman, assistant general manager, Rock Island Railroad.
Peoria—H. D. Page, chairman.
Duluth—W. H. Groverman, chairman.
Pittsburgh—E. A. Peck, chairman; chairman, Pittsburgh Operating Committee.

LOW GOVERNMENT SALARIES CAUSE GEOLOGISTS TO RESIGN

In his annual report, George Otis Smith, director of the United States Geological Survey, dwells at length on the menace of inadequate compensation to the government's scientific work. In part he says:

"In a highly specialized scientific bureau quality of public service must depend largely upon training and experience. The compensation offered must be such as to attract the best graduates of the universities and to hold those who prove their aptitude for scientific work. The fact that there have been seventy-seven resignations from the scientific force of the Geological Survey during the last year—17 per cent of the force—suggests inadequacy of compensation, and the percentage of resignations in the clerical and nonscientific force was even larger. This statement, of course, does not include separations. These geologists had persisted to the limit of endurance with a magnificent spirit based on their love of scientific research and their desire to contribute to the sum of geologic knowledge. Most of them have been forced out of the service by sheer financial necessity. Unless adequate measures are taken to ameliorate the situation, the geologic staff is destined to suffer far greater deterioration of morale and depletion in its ablest, most responsible, most experienced, and most valuable members. Also it appears that the compensations paid and the inducements presented today to the young geologists by this survey are inferior to those offered by most of the state geological surveys or to those that may be found in the universities, with their distinctive prestige, their long vacations, their sabbatical years, and their adequate provisions for ultimate retirement. The survey is passing into a stage when, with greater need than ever for systematic geologic work in the country, it is ceasing to be attractive to the young men of greatest ability, training and promise. This situation deserves prompt and effective remedy, for it threatens most seriously to cripple this branch of the public service.

"Increase in government compensation is not the sole remedy for the present condition. The government employe is hedged about with restrictions that are especially grievous to one who wishes to make the public service his life work. Some of these are bureaucratic, in part essential to the conduct of work for the benefit of the whole public, but also possibly in part unnecessary holdovers from past conditions and therefore removable with enlightened administration. Many of the restrictions, however, are of legislative origin, especially those which are fiscal in nature. Not only is the public servant apparently not re-

garded worthy of his hire, as measured by commercial standards, but he is obliged to conduct his work under conditions of intended economy that do not make for efficiency. A per diem allowance whose limit has not changed with the advancing cost of living forces the choice of a second-rate hotel, where the government engineer traveling on official business, for instance, is not likely to meet the professional men with whom to be in touch is a part of his official duty. The only recourse is expenditure of private funds for official expenses, a procedure which aggravates the discrepancy between government and outside salaries. Other restrictions in government accounting are so obviously based upon the assumption that the public servant is potentially dishonest as to be a constant irritation to the self-respect of some men who hold the highest ideals of public service. The more confident a man is of his personal integrity the less he likes to be treated as a grafter. Even though such restrictions are necessary in the public service the fact remains that they predispose some of the best men in the scientific bureaus to accept employment under more liberal auspices.

"The latest restriction put upon efficiency in the scientific service of the Government has been the enforcement of a retrenchment measure whereby scientist and clerk alike are allowed only 75 square feet of floor space each. The inadequacy of this allotment becomes evident when the tools of a working geologist are enumerated—several large cases of rock specimens, map cases, book cases, file cases, as well as his desk and drawing table or bench for simple laboratory tests. The practical arguments against putting two or more highly paid workers in the same room were set forth on pages 7-14 of the Thirty-third Annual Report, and such considerations presented to the congressional committee at that time led to the authorization of the new building, in which the survey now finds its personnel more crowded than in its old rented quarters. Moreover, many of the special features of the new building designed to facilitate the best work of the scientists lose their highest value under the present conditions. Men who need what are essentially laboratory facilities cannot be crowded into the same space as clerical workers and render the service for which they are paid. The loss in efficiency which cannot appear on the books of the Treasury will surely several times exceed the apparent saving in rentals, and even worse than that, this crowding now adds to the unattractiveness of government employment to those who are most needed in the public service."

ALIEN PROPERTY CUSTODIAN ON OIL FLOTATION CASE

Extract from the Report of the Alien Property Custodian, Senate Document No. 435, relating to his handling of foreign-owned patents and alien-controlled corporations owning patent rights.

MINERALS—SEPARATION MACHINERY

The history of Beer, Southeimer & Co.'s activities in the United States would not be complete without mentioning its connection with the various minerals-separation companies.

WHAT MINERALS SEPARATION MEANS— THE PATENTS

The various minerals-separation companies have successively claimed to own patents covering an improved process of ore concentration. Ore concentration in metallurgical operations is the separation of the mineral or metallic part of ore from the nonmetallic or worthless material found associated with it in nature, in order that the valuable metallic particles may be in proper condition for the subsequent process of smelting. Hence the name "minerals separation."

Expressed in language which laymen can understand, this new process may be described as the addition of a very small quantity of oil to the ore pulp (which is ore finely pulverized floating on water) followed by vigorous agitation of the pulp, and the introduction of air currents into the mixture, resulting in the development and distribution throughout the mixture of small bubbles of air which attach to themselves the valuable metallic particles and with them rise to the surface, forming a mineral froth of such coherency as to afford full opportunity for its removal from the surface for further treatment of the metallic particles, while the worthless sinks to the bottom.

Prior to the invention of this new process, ore concentration, or the separation of the mineral from the useless parts of the ore, was effected by the water or gravity process. In that process the ore was mixed with water, forming the ore pulp; the pulp was shaken, thereby separating the metallic particles from the worthless part of the ore and the metallic particles being heavier than the water, sank to the bottom, while the worthless particles being lighter than the metallic particles, though heavier than the water, were subjected to an up current of water which carried the worthless particles to the surface and over the container. The old process was commercially unsuccessful because it permitted a large percentage of metal in the ore to be carried off with

worthless particles. The material thus rejected was called slime. For years dumps consisting of millions of tons of such slimes, which were known to contain large percentage of metal, lay useless because there was no known process by which they could be treated and the metal extracted.

In 1906, Henry Livingstone Sulman, Hugh Fitzalis, Kirkpatrick Picard, and John Elliot, all of London, England, claiming to be the inventor of the new process, obtained a patent thereon in the United States. In 1910, Sulman and Henry Howland Greenway and Arthur Howard Higgins, all of London, obtained another patent in the United States, and in 1914, Greenway, then of Melbourne, Australia, obtained a third patent in the United States. The latter two patents involving the same process as the first one, but including improvements thereon. These patents run for a period of seventeen years from their respective dates.

In 1905, and before the first United States patent was obtained, the patentees obtained a patent in England exactly similar to the first United States patent. The validity of the English patent was attacked in the English courts, but was sustained by the House of Lords. (*Minerals Separation, Ltd., v. British Ore Concentration Syndicate, Ltd.*, 27 R. P. C., 33.)

In 1903, Minerals, Ltd., which will hereinafter be designated as the parent company, was formed under the English law. The three United States patents were assigned to this company.

In 1910, the parent company having acquired the United States patents, and similar patents obtained in Canada and Mexico, conveyed these patents to a corporation called Minerals Separation American Syndicate, Ltd., for the purpose of enabling the American syndicate to exploit these patents in America. This, too, was an English corporation.

In 1911, the American syndicate made a contract with Beer, Sondheimer & Co., whereby it gave to that firm the exclusive agency to represent the syndicate in America. For reasons which are unimportant in the present inquiry, this first American syndicate was soon dissolved and a new syndicate was formed called Minerals Separation American Syndicate (1913) Ltd. This, too, was a British company. The 1913 syndicate renewed the agency agreement of Beer, Sondheimer & Co., and appointed that firm sole agents to conduct all of the syndicate's affairs in the United States, Canada, and Mexico, the agency to continue for a minimum period of ten years with a provision for renewal for the rest of the life of the patents. Beer, Sondheimer & Co. were to receive a commis-

sion of 10 per cent of all gross royalties received for the use of the patents and 10 per cent on all profit-sharing business (the syndicate intending not only to give licenses, but also to buy up and treat ores), and also a percentage as a commission for the sale of products so treated by the syndicate.

When the agency agreement was made Beer, Sondheimer & Co. had an American branch of its business in New York City, which was in charge of Benno Elkan and Otto Frohnknecht, and was being conducted under the name of Beer, Sondheimer & Co., American branch. The parties entered into the performance of the agreement, and inasmuch if not all of the business was done in the United States the agent's end of the business was conducted by the American branch of Beer, Sondheimer & Co.

In addition to having the exclusive agency, Beer, Sondheimer & Co. were also stockholders of the 1913 syndicate, owning 32,615 shares of said stock. In 1916 the property of the 1913 syndicate was conveyed to an American corporation, Minerals Separation North American Corporation, and each stockholder became entitled to two shares of the American's corporation stock for each share of the 1913 syndicate stock.

The importance of the control by this German-owned branch of Beer, Sondheimer & Co. of the minerals separation process, and the power to grant or withhold from the United States metal industry licenses to use the flotation process, can hardly be overestimated. The custodian, as will be pointed out later, has taken over all of the minerals separation stock held by Beer, Sondheimer & Co., and the latter's control of the minerals separation process in the United States has broken.

Copper Situation Uncertain

There are many influences at work at the present that are affecting the copper producers in the United States, both directly and indirectly, and which they are endeavoring to surmount. The industry's own labor troubles, the effect of the steel and coal strikes, the vicissitudes of other metal markets, and the outlook for copper itself all bear upon the situation. The large unsold stock of copper in the United States, estimated in some quarters at half a million tons, represents a reserve accumulation that can be marketed if necessary. During its recent session held a few weeks ago, the International Trade Conference echoed the impression felt in this country that the European nations are in need of large quantities of copper.—Bureau of Mines' report.

OPERATION OF NITRATE PLANT AT MUSCLE SHOALS URGED

The War Department authorizes the publication of the following letter sent to Senator Wadsworth and Congressmen Kahn by the Secretary of War:

I enclose a proposed bill providing a method of conducting operations at the United States Nitrate Plant No. 2 at Muscle Shoals, Alabama, and authorizing the expenditure of such additional sums as are necessary to equip the plant to turn out fixed-nitrogen in available form for agricultural uses. I shall be grateful if you will introduce the bill into the House, where a discussion can be had upon it from both points of view; namely, first, the importance of maintaining this great enterprise as a military asset for the production of nitrogen for explosives independently of importations and, second, the contribution which can be made to the farmers of the country by increasing the available supply of nitrogen for fertilizer.

The investment of the Government in this great plant approximates \$70,000,000. In addition to that, under authority already granted by the Congress and by direction of the President, a dam is being constructed at Muscle Shoals which will incidentally improve navigation of the Tennessee River, but the primary purpose of which is the development of an immense water-power to be used in connection with the fixation of nitrogen, should the electrical process remain the most economical for that purpose. This investment can only be salvaged by continuing the operation of the enterprise and by improving the processes with a view to further economies and consequent reduction in prices for available nitrogen for agricultural purposes. If we allow the plant to stand idle, it will not only deteriorate but will become obsolescent, while if it can be continued in operation the forward steps in the development of the process can be currently installed and, should any emergency need arise, the plant will be up-to-date and ready for immediate use.

Because this property now belongs to the War Department, it seems wise that legislation affecting it should be introduced by the chairman of the Military Affairs Committee; but the major usefulness of the plant—practically its entire usefulness—in peace times will be to the agricultural interests of the nation, and it is my hope that from both points of view the suggestion can receive sympathetic study.

It will be observed that the bill proposes operation by a corporation in which the Government will be the sole stockholder rather than through one of the established bureaus of the War Department. The choice of such an instrument is dictated by the greater freedom with which the commercial and scientific

undertakings of the plant can be carried on under such circumstances, and the operation of the Panama Canal Railroad is appealed to as illustrating the advantage of that form of operation in a somewhat analogous though it seems to me more persuasive, instance.

When the bill has been introduced and referred, it will give me great pleasure to lay all the details of the present situation, and such accurate forecasts as our engineers have been able to make, before the committee for their consideration. The department believes that it will be possible with the outlay suggested in the bill to produce on a commercial basis recognized chemical products of high value and ready sale even prior to the completion of the dam and the installation of hydro-electric power. When that end of the project is completed an even more favorable result will be obtained and the value of the plant, particularly to the farmers, will be greater and constantly growing.

Cordially yours,

NEWTON D. BAKER

Secretary of War.

Physical Properties of Platinum

Platinum is a white metal with a grayish tinge, and takes a high polish, but one less brilliant than silver. It is very malleable and ductile, and can be rolled into thin sheets and drawn into fine wire. These properties are impaired by the presence of impurities. It has a specific gravity of 21.3 and a hardness of 4 and 5, being harder than copper, silver or gold. It melts at about 1710 degrees C. The atomic weight is 195.2.—Bureau of Mines' Report.

Chrome Shows no Improvement

The market for chrome ores continues dull and there is little chance for improvement until the stocks in the hands of consumers have been materially reduced. That there is a demand for the higher grade ores is evident from the fairly large tonnages of foreign ores that continue to come in. Although these ores may be shipped on old contracts.—Bureau of Mines Minerals Investigations.

Uses of Platinum

Owing to its resistance to the action of acids and most chemical agents even at high temperatures, and to its high melting point, it is in extensive use for the manufacture of crucibles, basins, tongs, wire, etc., and for chemical laboratory work. A large quantity is also used in the construction of apparatus for the catalytic manufacture of concentrated sulphuric acid. A considerable amount is consumed in the electrical and dental industries and in the preparation of salts, notably the chloride for photographic work. There has been also a large demand for jewelry.—Bureau of Mines' Report.

MINING LABOR IN THE JOPLIN DISTRICT

BY OTTO RUHL, *Consulting Engineer*

At no time in the industrial history of the United States has the relation of labor and capital received the attention it is now receiving by all classes of our citizens. Standing out as one of the prime difficulties and one of the major reasons for our unrest and tendencies towards strikes and disturbances is the alien labor agitator and easily led alien labor which permeates and constitutes a very large part of the working forces of every industrial establishment and mining camp in the United States. Instance after instance has arisen during and since the war where our labor disturbances have grown out of the ignorance and perverted ideas of alien labor as regards American democratic institutions. Certain it is that had our alien laborers been more completely Americanized and had we absorbed them in smaller numbers in the past or had the Government and our people given more attention to the education and assimilation of these elements of our foreign population much of the evil already done might have been avoided. It is refreshing, therefore, to be able to point out at least one field in the United States where labor troubles are few, where there is an American employer employing only American labor, and where there is comradeship between capital and labor. This field is known as the Joplin zinc mining district, comprising portions of Missouri, Oklahoma and Kansas.

For a period of from twenty-five to thirty-five years this district has been the central field supplying the major portion of the zinc mined in the United States, a district in which the production has grown from \$1,000,000 to \$25,000,000 annually. It is refreshing and an inspiration to know that the growth of this industry has been steady and uninterrupted by any clashes of labor and capital in its entire history except for a few instances where there was interference from the outside labor agitator who invaded the field in the hope of gaining control of the laboring forces. In all that period of thirty years no foothold has ever been obtained by the foreign labor agitator.

He found a peculiar condition confronting him; he found the laboring men of this field to be American-born citizens, speaking only the English language, with an intelligence equal, and in many cases far superior, to the well-trained labor organizers who have entered the field. They found the employers, for the most part, former employes who had become capitalists by seizing the opportunities presented in the field and profiting by them.

He found the personal relationship between such men an impassable barrier to his activities. It was impossible for him to incite any class feeling between the miners and the mine operator because any insinuation of class consciousness or division of interests was met by the actual fact of personal friendships and shoulder-to-shoulder contact extending over many years' association between operators and miners.

The labor agitator also came in contact with the high personal aspirations that exist with the mine workers of the Joplin district. From time to time the miners secure their own leases and start their own prospecting enterprises and become employers of labor, and for these reasons cannot harbor in their hearts the class hatred which the labor agitator attempts to instill and so successfully does instill in the heart of the alien laborers who have smaller aspirations and the class consciousness of the old world.

It is true that there have been, from time to time, labor shortages within the Joplin district, shortages which many times caused the mine operators to feel the need of going into other avenues for labor, but such sentiment aided by the staunch American spirit of the majority of the mine operators and the entire group of mine labor has prevented the importation of foreign labor of any type. It would be difficult indeed today for any mine operator to even attempt to employ foreign labor. The advantages of living in a community where all are American has been too long enjoyed and its benefits too manifest, especially in the last year, for such opinion to permit any abrogation of a condition which has meant prosperity, peace and happiness for an entire community and for an entire industry.

But, you ask, how have such conditions been maintained? Are your laborers organized? Is there no conflict of forces? How can you maintain peaceful relations when the price of your product goes up or when it goes inordinately down? Our answer is, the common sense and the desire of fair play which characterizes the plain American living under democratic ideals. There are, of course, unions within this mining district, but they are confined to the lesser trades. Among the miners themselves there have been two or three attempts to organize them by the Western Federation of Miners, but the effort has never met with success, their numbers never having reached over 100 or 200 members at most and eventually passing away.

Relations between laborer and employer have been arranged in a rather unique way. In the first place the mine operators have decided to play fair with the laborer. They have learned by experience that they employ the best labor in the world, and it is their desire to keep them contented and prosperous and they have attempted on their part to meet the laboring man more than half way. The same feeling has prevailed with the laborer. It is obvious, therefore, how easy it has been to harmonize relations.

In the first place, working conditions are standardized by law. The eight-hour day prevails under ground, while nine and ten hours prevail on the surface. The conditions surrounding labor pertaining to its safety, sanitation and health are also prescribed by law, and are observed in even a greater measure by the employer than by the employee. Regulation of the wage scale is determined in the main by the price obtained for the mined products, and secondarily by the ability of the men themselves. The scale of wages adopted by common consent has been a sliding scale—it goes up when the price of zinc ore goes up. This scale, however, has been modified from time to time in the last three years by the mine operators, who have realized that the cost of living has been climbing higher and higher, and many times the scale has been held a notch higher than was warranted by the price of ores that have been marketed. There has never been a district-wide concerted strike in the history of the field, only spasmodic strikes of minor character affecting a very small number of men at any one time.

These conditions are all the more striking because the Joplin district lies side by side with the coal mining district of Kansas on one side and the coal mining district of Oklahoma on the other, both highly organized and both employing large numbers of alien labor. Singularly enough agitators from both of these adjoining fields have kept the coal mine industry in constant turmoil by strikes and during these strikes it has not been uncommon for the striking laborers to attempt to obtain jobs in the zinc mining district, but they are never welcome and few obtain work, and when they do seldom stay long. The atmosphere is unwholesome for an I. W. W. or a Bolshevik. There is at least one block of solid American labor in the United States totaling from 10,000 to 18,000 men in the zinc mining district of Missouri, Oklahoma and Kansas of sterling American qualities which cannot be questioned, and whose conditions of labor, prosperity and relationship with employer and general living is worthy of the study and emulation

of any mining district in the United States.

This does not mean that there are not conditions that should be remedied. It does not mean that the operators and the men themselves are not aware of conditions that need improvement, and there are such. Prior to the war-time prohibition the number of laborers who squandered their wages and impoverished their families by drinking was entirely too large a percentage of the whole to be wholesome to any community. This was reflected in poor housing, lack of proper nourishment and clothing, and lack of efficiency in the men themselves. Since prohibition there has already been a marked improvement in this regard alone, families are better clothed, fed and housed. The housing problem within the district is a difficult problem. The short life of the ordinary mine, the migration of camp activities, all tend to make temporary housing the general rule, and temporary housing means poor housing. The civic spirit of the district has many times given thought to this problem, but so far has had small success. The problem is a most baffling one and needs the best attention of both employer and employee.

But with employers and employees both Americans with American ideals, the problems will be worked out in a sane, democratic way.

Cobalt

Cobalt minerals are rather uncommon except in the Cobalt district, Ontario, Canada, where they occur in ores that are worked for their silver content, the cobalt produced being a byproduct. The smelting and refining of this ore has recently been described by Sydney B. Wright (*Mining and Scientific Press*, Jan. 25, 1919, p. 125). As these ores are brought to various smelters, according to changes in smelting contracts, the material comes on the market from different places at different times. In the main it is marketed as cobalt oxide. The metal is produced from the oxide by reduction. The principal use of the metal is in the patented alloy known as stellite (about 80 per cent cobalt) which is used as a high-speed cutting tool in place of steel (*Transactions A. I. M. E.*, Vol. 44, p. 573). It is also used as a high-speed tool steel which contains 4 per cent cobalt and 16 per cent tungsten. It is also claimed that it can be used as a substitute for nickel in plating, the rate of deposition being faster than with nickel and a thinner coating giving equal protection. Other uses of cobalt compounds are in the making of insect glass, to which it imparts the shade known as Delit blue, and also certain purple shades.—*Bureau of Mines' Report*.

NATIONAL LEGISLATION

Congress adjourned on November 19, and therefore few bills of importance were introduced in Congress since our last issue. During the extra session of Congress there were introduced 14,172 bills, 3,437 in the Senate and 10,735 in the House. Hearings were held before the subcommittee of the Senate Finance Committee on a tariff for tungsten and zinc, but the committee made no report before Congress adjourned. The Hawley amendment for the suspension of annual assessment work on mining claims passed the House and Senate and was signed by the President on November 13. This is the only legislation of importance to receive final action since our last issue. Congress reconvened December 1 and it is anticipated that hearings will surely be resumed before the House Ways and Means Committee on the tariff question and that the Senate Finance Committee will consider the tariff bills now before it. The following bills have been introduced:

Tariff

H. R. 9983: Introduced by Mr. Fordney and referred to the Committee on Ways and Means. The act is known as the Anti-Dumping Act and provides for a special duty to be levied upon merchandise imported into the United States of a class or kind identical to or comparable with a class or kind made or produced in the United States or of a kind sold in competition with articles made or produced in the United States. Section 9 of the bill provides that whenever merchandise is exported to the United States of the class or kind provided for in this act, and the sales price is less than the foreign home value, or in the absence of such value is less than the value to countries other than the United States, or in the absence of such value is less than the cost of production, there shall be levied and collected, in addition to the duties on imported merchandise prescribed by existing laws, a special duty in an amount equal to the difference between the sales price and the foreign home value or the value to countries other than the United States or the cost of production as the case may be. The bill appropriates the sum of \$400,000 and vests the power of the bill in the Secretary of the Treasury, who is authorized to appoint a sufficient number of special agents having expert knowledge of the administration of customs laws, to be supplied from the Civil Service Commission at a compensation at not to exceed \$5,000 per year, plus traveling expenses.

S. J. Res. 125: Introduced by Mr. Penrose, referred to the Committee on Finance, providing as follows:

To continue the control of imports of dyes and coal-tar products.

Resolved, by the Senate and House of Representatives of the United States of America, in Congress assembled, That notwithstanding the prior termination of the present war, the provisions of the Trading with the Enemy Act, approved October 6, 1917, and of any proclamation of the President issued in pursuance thereof, which prohibit or control the importation into the United States of dyes or other products derived directly or indirectly from coal tar, are continued until January 15, 1920. During the period between the passage of this joint resolution and January 15, 1920, neither the President nor the War Trade Board section of the Department of State, nor any other agency of the Government, shall issue to any person, corporation, partnership, or association any license or permit to import into the United States any such dyes or coal-tar products, and during such period no person, corporation, partnership, or association shall import into the United States dyes or coal-tar products except by virtue of a license or permit heretofore issued.

This resolution passed the House of Representatives November 18.

H. R. 10305: Introduced by Mr. Kahn, referred to the Committee on Ways and Means. The bill provides that on the approval of the act there shall be imposed a tariff on chrome ore as follows:

Crude chrome ores and chromium ores and concentrates thereof, 60 cents per unit of Cr_2O_3 contained therein.

Upon ferrochrome and other metallic alloys containing chrome, $11\frac{1}{2}$ cents for each pound of metallic chromium contained therein.

Upon refractory brick and material used for refractory purposes containing chrome, the sum of 65 cents per unit of Cr_2O_3 .

Upon chemical compounds and articles manufactured therefrom, containing chrome or chromite, 90 cents per unit of chromium content; a unit being 1 per cent of Cr_2O_3 contained in a short ton of two thousand pounds.

Public Lands

H. R. 10433: Introduced by Mr. Hayden, referred to the Committee on Public Lands, providing for the disposal of public lands in Arizona, New Mexico, Nevada and Utah containing deposits of copper at depth. The power of the bill is vested in the Secretary of the Interior, who is authorized to issue prospecting permits which shall give the exclusive right for a period

of three years to prospect for deposits of copper in tracts of land in Arizona, New Mexico, Nevada or Utah, such permits to contain 1280 acres or less upon the condition that the person or corporation receiving the permit shall begin operations within one year from the date the permit shall be issued and shall within two years from the date of permit drill one or more test holes. Section 2 of the bill provides that whether the land in the application be surveyed or unsurveyed, the applicant shall, prior to filing his application for permit, locate the lands in a reasonably compact form. Section 3 of the bill provides that upon the discovery of a valuable deposit of copper within the limits of the land embraced in the permit, and proof of the expenditure in labor and improvements thereon of not less than a sum equal to \$25 for each acre, and upon the payment to the proper officer of \$5 per acre, the permittee shall be entitled to a patent for such tract of land to be described by the legal subdivisions of the public land survey. The bill expressly provides that the act does not apply to any military or Indian reservation, national park or lands in any coal, oil, gas or phosphate reserve or withdrawal.

H. R. 10433: Introduced by Mr. Hayden and referred to the Committee on Public Lands. The Secretary of the Interior is authorized to issue to citizens of the United States prospecting permits which shall give the exclusive rights for a period of three years to prospect for deposits of copper in rock in places underlying an overburden of wash, conglomerate, or nonmineral-bearing formation in tracts of land in the states of Arizona, New Mexico, Nevada, or Utah, containing 1,280 acres or less. The persons holding such permits must begin operations within one year from date of permit, and within two years drill one or more test holes, or sink one or more test shafts, to a depth of not less than 500 feet, unless a deposit of copper be sooner discovered, and shall within three years drill test hole or sink test shaft to an aggregate depth of 1,500 feet, unless copper be discovered sooner. Upon the discovery of a valuable deposit of copper within the limits of the land embraced by the permit and proof of the expenditure in labor and improvements thereon of not less than a sum equal to \$25 per acre, the permittee shall be entitled to patent for the tract of land. The land is to be surveyed by the Government at the expense of the permittee under rules to be prescribed by the Secretary of the Interior, and the lands patented shall be conformed to and taken in accordance with the legal subdivisions of such survey, and deposits made to cover the expense of the surveys shall be deemed appropriated for that pur-

pose, and any excess deposits may be paid to the person making such deposits. The act specifically states that it does not apply to any military or Indian reservation, national park, or national monument, or lands in any coal, oil, gas, or phosphate reserve or withdrawal.

Revenue

S. 3422: Introduced by Mr. Frelinghuysen referred to the Committee on Claims. The bill provides that any individual, corporation, etc., subject to the income tax provided by the act of October 3, 1913, which is or may be compelled to pay or become liable for any additional tax within the provisions of section 3176, which additional tax has been imposed for a neglect to file a return as provided in the income tax law on or before the 1st of March of any one year, may, within one year after the passage of this act, make application to the Commissioner of Internal Revenue for a refund of such additional tax, and the commissioner is directed to remit or pay back all such additional taxes in excess of \$100 for any single year, provided the additional tax was solely because of neglect to make return.

Labor

H. R. 10431: Introduced by Mr. Rhodes, referred to the Committee on Labor, providing for an old age pension. In order to receive this pension a person must have attained the age of 60 years, be a citizen of the United States for 21 years, must not have an annual income from any source exclusive of the pension of more than \$500 per year. Section 11 of the bill provides that the pension shall be paid in twelve equal instalments and that the pension may be increased or decreased every twelve months whenever the pensioner's income increases or decreases, according to the terms of the schedule. The bill provides that all claims for old-age pensions under this act shall be filed with the Department of the Interior, together with affidavits containing such statements as may be prescribed by the Secretary of the Interior, who shall make such rules and regulations as may be necessary to carry out the provisions of the act.

Coal

H. Res. 372: Introduced by Mr. Haer and referred to the Committee on the Judiciary, providing:

WITNESSETH: An emergency now confronts the nation in that the supply of coal necessary to meet the needs of the people during the coming winter is threatened by a general strike of the bituminous coal miners; and

WHEREAS. The private operators of the mines have shown themselves unable or unwilling to meet the coal miners upon terms as to hours and conditions of labor which would allow the production of coal to proceed; and

WHEREAS. The seriousness of the situation demands immediate action by the Government to insure the continued production of bituminous coal in order that widespread suffering and the paralysis of industry may be avoided, now, therefore, be it

RESOLVED. That immediately upon the passage of this resolution the President is urged to take possession of the bituminous coal-mining properties throughout the United States and to negotiate such voluntary agreement with the workers in the industry as shall insure the uninterrupted production of coal as well as guarantee the interests of all concerned until such time as in his opinion the present emergency shall have passed and the mines returned to the private owners.

H. Res. 374: Introduced by Mr. Burke, referred to the Committee on the Judiciary. The resolution authorizes the President of the United States to take over and operate the coal mines for the period of one year, or so long thereafter as in his discretion may be necessary for the public good. It also authorizes the President to enter into negotiations with the miners' committee and arrange a mutually satisfactory wage and working agreement. It provides that during the time the mines are operated by the Government the coal produced shall be sold to the public at the actual cost of production, plus a reasonable return to the mine owners for such coal as may be produced and disposed of.

H. R. 10376: Introduced by Mr. Haugen and referred to the Committee on Agriculture. The bill amends the act which provides for the national security and defence by encouraging the production, conserving the supply, and controlling the distribution of fuel and food. It amends Section 24 of the act and provides for the provisions of the act shall cease to be in effect six months after the existing state of war between the United States and Germany shall have terminated, and the fact and date of such termination shall be ascertained and proclaimed by the President.

War Contracts

H. Res. 381: Introduced by Mr. Graham, referred to the Committee on Expenditures in the War Department, requesting the Secretary of War to review the settlement of claims arising out of war contracts as specified in the act of March 2, 1919, by

providing relief in cases of contracts connected with the prosecution of the war, and for other purposes.

Safety

H. R. 10519: Introduced by Mr. Vestal, referred to the Committee on Interstate and Foreign Commerce, providing for the creation in the Interstate Commerce Commission of a safety department, to be known as the Safety First Division, with a manager who shall have charge of the safety committee work of the railroads, who shall receive a salary of \$9,000 per year and be paid his traveling and other expenses. It is proposed to divide the territory comprising the several states into districts, so arranged that the service of the supervisor of safety, appointed for each region or district, shall be most effective. No person shall be employed who is directly or indirectly interested in any patented article required or used on railroads in any way. Each railroad having more than one superintendent shall have a general or central safety committee composed of the active heads of each department. In addition there shall be formed in each superintendent's territory and at the principal shops and terminals, with the ranking officer as chairman, division, shop and terminal committees with representatives from each class of service. Each carrier subject to this act shall file its rules and instructions for conducting its safety committee work with the manager within three months after the approval of this act, and after approved by the manager, these rules shall be obligatory upon the carrier. The rules and regulations to be made by the manager of the Safety First Division shall include form and manner of reports, period of meetings, inspection of railroad property, and personal supervision of safety committees and activities by the manager and supervisors of safety of the Safety First Division. Any carrier violating any rule or regulation under this act is liable to a penalty of \$100 for each and every violation. The sum of \$200,000 is appropriated to carry out the provisions of the act.

Swedish Iron Exports Decrease

The Swedish iron industry, according to "Commerce Reports," during the first half of 1919, has been operating under adverse circumstances. This is due mainly to industrial difficulties and sales in the British market of government stocks which accumulated during the war. The exports of pig iron during the second quarter of 1919 were only 23,100 tons against 54,900 during the same period of 1918. —Bureau of Mines' report.

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